THE GOOGLE STORY
Inside the Hottest Business, Media and Technology
Success of Our Time

DAVID VISE and MARK MALSEED

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“Not since Gutenberg invented the modern printing press more than 500 years ago, making books and scientific tomes affordable and widely available to the masses, has any new invention empowered individuals, and transformed access to information, as profoundly as Google. With its colorful, childlike logo set against a background of pure white, Google’s magical ability to produce speedy, relevant responses to queries hundreds of millions times daily has changed the way people find information and stay abreast of the news. Woven into the fabric of daily life, Google has seemingly overnight become indispensable. Millions of people use it daily in more than 100 languages and have come to regard Google and the Internet as one. The quest for immediate information on anything and everything is satisfied by ‘googling’ it on a computer or cell phone. Men, women and children have come to rely so heavily on Google that they cannot imagine how they ever lived without it.”

- David Vise and Mark Malseed

Strange as it may sound considering the fact Google is today worth more than Disney and General Motors combined, Sergey Brin and Larry Page, the two young co-founders of Google never actually set out to change the world. When the company was founded in 1998, it didn’t even have a business plan or a definitive business strategy. Instead, all Brin and Page had was an intense desire to do something innovative and to create a workplace where the best and brightest people could do some fun stuff.

Sergey Brin was born in Moscow, Russia on August 21, 1973. At age six, his parents emigrated from Russia to America to escape anti-Semitism and in search of greater freedom and opportunities. Sergey’s parents are both highly educated. His mother is now an accomplished scientist at NASA’s Goddard Space Flight Center while his father teaches math at the University of Maryland. As a result, a good education is highly valued in the Brin household. Sergey received an undergraduate degree from the University of Maryland at age 19 with honors in math and computer science. He was then awarded a National Science Foundation graduate fellowship and enrolled in the doctoral program at Stanford University.

Larry Page was born in Michigan on March 26, 1973. His father Carl had received one of the first computer science degrees ever awarded by the University of Michigan, so Larry grew up using computers all his life. His mother had a master’s degree in computer science and worked as a database consultant. Both his parents taught at Michigan State University although they divorced when Larry was eight years old. Larry graduated from the University of Michigan in 1995 majoring in computer engineering and was also accepted into Stanford University’s doctoral program.

Larry Page and Sergey Brin actually met for the first time in 1995 when Sergey was running a new student orientation program at the University of Michigan in 1995 majoring in computer engineering and was also accepted into Stanford University’s doctoral program.

Larry Page and Sergey Brin were the sons of professors, they had always just naturally assumed they too would stay in academia for the balance of their careers. Brin’s advisor, Professor Motwani, suggested a good subject for a doctoral thesis would be to look at finding new ways to extract meaningful information from large mountains of data. In the mid-1990s, it was very difficult to find information on the Internet, which resembled a virtual Wild West in many ways – unregulated, unorganized and unruly. This was the era of the first generation search engines like WebCrawler, Lycos, Magellan, Infoseek, Excite and HotBot. In response to this need, two other Stanford doctoral candidates, Jerry Yang and David Filo, had started assembling an alphabetized directory assembled by human editors, which would eventually become Yahoo! Motwani suggested to Brin there might be a smarter and better way to get the job done.

“At the same time, Page began hunting around the Web using a new search engine called AltaVista. While it returned somewhat better and faster results than the other search engines, Page noticed something else entirely. In addition to a list of Web sites, AltaVista’s search results included seemingly obscure information about something called ‘links’. Links contributed to the Web’s dynamism; computer users seeing a highlighted word or phrase could click on that link if they wanted to learn more, and they would instantly be taken to another Web page. Instead of focusing on AltaVista’s main search results, Page began pondering what could be gleaned from analyzing the links.”

- David Vise and Mark Malseed

Page decided he would dig into those links and analyze how they could be used further. To test his theories, Page audaciously decided he would download the entire World Wide Web onto his desktop. He thought this could be done fairly easily and quickly. Page dispatched an automated piece of software called a “spider” to systematically visit every Web site and download its contents. As might be expected, this attempt fell well short of the mark and Page was never actually able to download the entire Internet, but this project did look promising. Both Brin and his advisor, Professor Motwani, thought Page’s approach of looking at the links held the promise of improving Web research.

Page came up with a theory. In just the same way as academic articles always quoted citations, he suggested not all links were of equal value. Page suggested incoming links from important pages should have greater weight than links from obscure and rarely visited Web sites. He came up with a ranking system which said the sites with the most links pointing to them were more important than the sites with few links pointing to them. He brashly and playfully decided to call this link-rating system “PageRank” as a play of words on his own name.

“Larry talked about the idea initially asa random surfing, the idea of a random walk on the Web. The motivation for the algorithm (a set of mathematical equations) was really thinking about the surfer. Start on a page, click on a link, and see where you would land most of the time. That got refined into PageRank.”

- Terry Winograd, Stanford professor, advisor to Larry Page

Brin and Page decided in early 1997 they would team up to write a Ph.D. thesis around the idea of applying PageRank to the Internet. They even came up with a primitive search engine they called “BackRub” which analyzed the incoming links to a Web page. Without realizing it, they had actually managed to develop the first ranking system for the Internet which would later come to solve one of the core problems involved when searching for information on the Web.
“It wasn’t that they sat down and said, ‘Let’s build the next great search engine’. They were trying to solve interesting problems and stumbled upon some great ideas. Larry added ideas, Sergey added ideas, I added ideas, we all did; and it became clear we could build a full-scale search engine.”

– Professor Motwani

Larry Page and Sergey Brin decided they needed a catchy name for their new search engine. They spent days thinking up new ideas and discarding one idea after another. Finally, a friend suggested that since they were trying to search and index vast amounts of information, they could use a huge number like a googolplex – the number one followed by 100 zeroes. That sounded like a good idea, but it was decided to shorten it to G-o-o-g-o-l. Larry, however, misspelled it when he typed it in, and ended up with Google. Since that was available, Page and Brin went ahead and registered google.com as the Web domain name for their new search engine.

2. Making a Start

In 1997, Page and Brin were still treating Google.com as their doctoral thesis project. They therefore made the search engine available to students, faculty and friends at Stanford University. Its popularity started growing quickly through word-of-mouth endorsements. This caused Stanford’s Office of Technology Licensing to decide to seek a patent for what Google was doing.

Since Page and Brin lacked any money to hire a designer, they developed a very simple homepage which had an uncluttered look. It really consisted solely of the search engine name and a box where an inquiry could be entered. This was in stark contrast to other search engines which had crowded graphics and a proliferation of banner ads trying to sell things.

“As a piece of design, it is really brilliant. If you went to a design firm and asked for a homepage for a search engine, you would never get that. It doesn’t have to have any animation or metallic colors, and there is no sound or lights. It flies completely in the face of the common belief that people love to find their way through the noise.”

– Dennis Allison, Stanford professor

To keep up with the demands for searches, Page and Brin started adding more computing power to their server. Since they couldn’t afford anything better, they started assembling their own machines and linking them together with software. They also scrounged around the campus, and even managed to commandeering any computers which lay unclaimed around the campus’s loading docks. Stanford University also provided $10,000 to help the pair bulk up their servers.

At this stage, Brin and Page were still quite ambivalent about Google. White on the one hand it was their doctoral research project, they also realized it had some serious commercial potential. They decided to offer their PageRank technology and the search engine software for sale. They met with the owners of AltaVista, Excite and Yahoo offering their technology for $1 million. All of them rejected the offer to buy Google. Yahoo cofounder David Filo advised Page and Brin they should take a leave of absence from the Ph.D. program at Stanford and start their own business to commercialize their search engine. Even with this encouragement, Brin and Page were undecided and weren’t sure what to do.

While they were indecisive about how to move forward, the pair were also hard at work improving Google. In July 1998, they added a summary or small snippet for each search result. This allowed users to get a feel for the results without having to visit each Web site. They also continued to work day and night developing other breakthroughs which would enhance the user’s experience when using Google. Page and Brin finally came to the conclusion to really grow Google, they would have to move off campus and attract some financial backing.

One of their professors suggested they should meet with Andy Bechtolsheim, one of Palo Alto’s best known entrepreneurs who had been a cofounder of Sun Microsystems and an early-stage investor in a number of other successful companies. Bechtolsheim met with Page and Brin and was impressed with their ideas plus the fact they already had a working product rather than mere ideas embodied in a PowerPoint presentation. Bechtolsheim told them candidly: “This is the single best idea I have heard in years. I want to be part of this.”

Page and Brin had no idea how to respond to this. Therefore, Bechtolsheim suggested he would write them a check on the spot which they could use to buy computers. They could then meet again and decide what he would get in exchange for the money. Bechtolsheim didn’t even ask them if they had formally registered the company yet, but he wrote a check made out to “Google Inc.” for $100,000 – a figure he picked because it was a nice, round number.

Page and Brin were so enthused by this vote of confidence they went off to celebrate by having lunch at Burger King. Page put the check into his desk drawer for two weeks until they could incorporate Google and open a bank account so they had somewhere to deposit the check. They also found other people were anxious to invest in any project Andy Bechtolsheim backed and in short order, the two had raised about $1 million in start-up funding. The fact they had raised as much capital to launch a new company as the amount they were trying to sell their technology for outright just a few short months earlier was not lost on them.

“They are really driven by a vision of how things ought to be, and not to make money. The idea of digitizing the entirety of the universe and making it work is something nobody was willing to tackle but lots of people knew needed to be done. They managed to get that together and bulldozed through the limitations. And with some luck, it is actually going to work.”

– Dennis Allison, Stanford professor

One thing Page and Brin knew for sure was quality searches would require not only the right algorithms but also much greater computing power than had ever before been employed by a search engine. In simple terms, Google search results were better because they didn’t just count words or count links. Instead, Google took more factors into account to come up with results than any other search engine. Page and Brin knew the key to their success in the future would be to optimize their available computing power at the same time as they continued to improve their search software and methodologies.

“PageRank is basically saying, if somebody points at you, you get some fraction of the importance that they have. Let’s say somebody really important points to you. That’s worth more than somebody who has a random Web page. We’ve assigned numbers to those pages that correspond roughly to their importance. The page’s ranking is the sum of all things pointing to it.”

– Larry Page
In the fall of 1998, Larry Page and Sergey Brin officially took leave from Stanford University and moved their computers, toys and gadgets into the garage of a nearby house. They chose this site mainly because the house had a hot tub. Google Inc. was formally registered on September 7, 1998 and the pair hired their first employee, a fellow Stanford Ph.D. student. They paid $1,700 per month for their first garage/office which they outgrew within five months. Brin and Page moved Google into a second-floor office space in downtown Palo Alto.

At this stage, neither the two co-founders nor any of the early-stage investors had any idea how Google would actually make money. They assumed having the best search engine would be valuable somehow, but there was never a clearly stated strategy for commercializing this. At this time, Google was handling about 100,000 queries per day, and was attempting to make money. They assumed having the best search engine would be valuable somehow, but there was never a clearly stated opportunity to hire as many talented people as could be found. To entice people to come work for them, Page and Brin offered cool technology, stock options, free snacks and drinks and the “opportunity to have millions of people use and appreciate your software”.

When PC Magazine listed Google in its list of the Top 100 Web sites and Search Engines for 1998, the company suddenly started attracting more users. Within a few months, Google was routinely providing 500,000 searches a day. To provide that, the company had to constantly add more computing power. Within eight months of its formal launch, Google had already chewed through its initial start-up funding of $1 million, and it was clear a substantial chunk of money would be needed to keep the company growing. Brin and Page knew they would have to approach some venture capital investors for more funding but they were determined not to lose control of their company. They therefore came up with a novel funding strategy which was as clever as their search engine.

Brin and Page decided to simultaneously approach two of the most prestigious venture capital firms in Silicon Valley: Kleiner Perkins Caufield & Byers and Sequoia Capital. They goal was to get both firms to invest in Google without either taking charge of the company. By having two investors rather than just the one, Brin and Page hoped they would be able to maintain control of Google while the two venture capital firms battled with each other. With this in mind, Brin and Page approached John Doerr of Kleiner Perkins and Michael Moritz of Sequoia Capital. Both these companies decided they wanted to invest in Google but neither were willing to co-invest or share the investment. It wasn’t until Brin and Page started assembling another group of angel investors as a viable alternative that both venture capital firms agreed to the very unique funding arrangement. In the end, Kleiner Perkins and Sequoia Capital invested $12.5 million each in Google. The venture capitalists did, however, attach one condition to the funding. The two entrepreneurs had to promise they would hire an experienced industry executive to help them transform their search engine into a profitable business. Brin and Page agreed to this request reasoning they would delay hiring adult supervision for as long as possible.

The $25 million in expansion capital was put in place in June 1999. By this stage, the company had seventeen employees. Employee No. 18 was Dr. Jim Reese, a brain surgeon who was hired as Google’s operation’s chief. His job was to beef up Google’s computer power so Sergey and Larry could grow the company aggressively. Rather than investing in a supercomputer, Google again purchased a heap of cheap PCs and cobbled them together in a network. The beauty of this system was not only the fact it was cheaper to purchase but computers could fail and be replaced all the time without any performance degradation. By spreading the data and the computer tasks over a large number of systems in multiple locations, Google also gained redundancy in the event any single data center went down because of power failure or for any other reason. By the summer of 1999, Google had expanded from about 300 computers to more than 4,000 machines.

While all this infrastructure beefing up was underway in the background, Google continued to garner more attention. The leading commentator for search engines was Danny Sullivan who previously worked as a reporter for the Los Angeles Times and The Orange County Register. Sullivan studied how all the search engines worked, and published a study entitled “A Webmaster’s Guide to Search Engines”. He also launched a Web site called Search Engine Watch, and became the guru for the search engine industry. When Danny Sullivan rated Google as the best search engine available, people really started to sit up and take notice. Through the endorsement of Danny Sullivan and other commentators, Google was able to market and grow its business without any advertising or marketing expenditure.

By late-1999, Google was averaging about seven million searches per day. That was impressive, but the business still wasn’t generating any significant revenues. It appeared the company might burn through all its capital and then disappear into the night.

“The original business idea was aimed at licensing the underlying search engine technology to a variety of other Internet companies and enterprises. During the first year we collectively had concern that the market we were pursuing was more difficult and more intractable than we had originally anticipated. The conversations with potential customers and negotiations with potential customers were protracted. There was a fair amount of competition, and we didn’t have a direct sales force. The customers were very harsh on the prices they were prepared to pay. It was clear if we were going to pursue that path, it was going to be a brutal path.”

– Michael Moritz, Sequoia Capital

If licensing the Google technology wasn’t going to work, the only other real alternative for generating cash was for Google to sell advertising. Brin and Page were initially very reluctant to go down this path as they thought other search engines biased their search results towards those who paid for advertising. This was a totally unacceptable idea for Google and would be viewed as a breach of trust. It would even violate the spirit of the company motto that Brin and Page adopted for Google: “Don’t be evil”.

Eventually, Brin and Page came up with a new idea for generating revenue. They decided they would split their search results page into two sections. On the left hand side would be the search results which would continue to be free and which would provide the best results possible irrespective of whether someone advertised with Google or not. On the right hand side of the results page, they would place targeted ads which were triggered by the user’s specific search request. Advertisers could pay for their ads to appear when specific search requests were entered, and the ads could even be ranked according to their relevance. Brin and Page also decided these ads should be in text format only with a headline, a link and a short description just the same as the free search results.
“Google’s superior search delivered a big enough audience for businesses to target their advertising, but how well it would all work remained to be seen. By the middle of 2000, Google was handling 15 million searches per day compared to the 10,000 of a year and a half earlier. Computer users were flocking to Google, but would they start clicking on ads too, enabling businesses to sell products and Google to sustain its financial model? Brin and Page remained confident, but skepticism abounded about the company’s ability to make it as a business that gave search results away for free and refused to accept both banner ads and paid placement in search results.”

– David Vise and Mark Malseed

While the company was waiting to see how the new business model worked out, it also continued to expand impressively. As many Internet companies were scaling back operations in 2000 due to the fact stock market valuations of Internet-based companies had fallen dramatically, Google was hiring. Similarly, with Microsoft’s high profile anti-trust court cases, software engineers who once had aspired to work for Microsoft started applying for jobs at Google. The company continued to innovate at an impressive rate:

- Wireless search capability was introduced, so cell phone users could carry out Google searches on the go.
- Google allowed other Web sites to add a Google search box to their own sites. They even paid 3-cents for each search the other Web sites sent Google’s way in a new and innovative affiliate program.
- Google entered into an agreement with Yahoo to provide search results generated by Google but branded by Yahoo.
- Google introduced new features which would catch spelling errors, allow people to search the Web for images, look up phone numbers and do much more.

By the end of 2001, Google was three years old. The company also generated its first annual profit of $7 million.

“Brin and Page had spent judiciously when building the computer infrastructure that powered its business, but they spared no expense when it came to creating the right culture inside the Googleplex and cultivating strong loyalty and job satisfaction among Googlers. The artifacts of that culture – brightly colored medicine balls, lava lamps and assorted gadgets and toys here and there – gave the business the appeal of a vibrant college campus. All of this, they believed, would pay off handsomely in the long run. The 85 employees who now worked for Google CEO Larry Page and President Sergey Brin labored long hours but were treated like family. They were fed like family as well, with free meals, healthy juices, and snacks in abundance. Googlers also enjoyed a bevy of conveniences like on-site laundry, hair styling, dental and medical care, a car wash – and, later, day care, fitness facilities with personal trainers, and a professional masseuse – which virtually eliminated the need to leave the office. Beach volleyball, foosball, roller hockey, scooter races, palm trees, bean bag chairs, even dogs – it was all part of making work fun and fostering a creative, playful environment where Google’s employees, most of them young and single, would want to spend their waking hours. Google would even go on to charter buses with wireless Internet access so that Googlers who commuted the hour from San Francisco could be productive, putting their energy into their laptops instead of worrying about how they would get to work.”

– David Vise and Mark Malseed

Despite the fact Google was now starting to generate a profit, the venture capitalists were still insistent Brin and Page should hire someone with management experience to help run the business. Sergey and Larry valued their independence highly and stalled for as long as possible, turning down a string of people who the two venture capitalists kept sending over to meet with them. It wasn’t until Sequoia Capital threatened to demand repayment of their $12.5 million investment that Page and Brin really started to think about this seriously.

They finally met with Eric Schmidt, the CEO of Novell and the former chief technology officer of Sun Microsystems. The first meeting didn’t really go all that well in that it consisted of one long argument between Sergey and Schmidt about the strategy he was executing at Novell. Both Brin and Page were impressed, however, by the passion with which Schmidt argued his point of view. They also respected the fact he was a computer scientist with a Ph.D. from the University of California at Berkeley.

After some behind the scenes discussions, Brin and Page agreed to appoint Eric Schmidt as chairman of the board of Google until he finished helping guide the impending sale of Novell at which point he would become CEO of Google. They insisted that Schmidt had to demonstrate his commitment by buying $1 million of preferred Google stock. Schmidt agreed and the deal was signed in March 2001. Eric Schmidt subsequently was appointed CEO of Google in July 2001.

“The place was always a zoo. The underlying structure and strategy and culture were good. The most apt description of what I did in the first year or two was put a business and management culture around the vision and gem that Larry and Sergey had created. When I got here, the company had credit cards that didn’t get billed to individuals. Larry and Sergey just gave credit cards out. The first thing I did was cancel all the credit cards except one, which Larry and Sergey controlled. They gave their card to other people to use to buy stuff, just to spite me. One day, a telephone booth showed up in my office. I said, ‘Who bought the telephone booth?’ We tracked it down to somebody who had their credit card number. It was very entertaining. One day these massage chairs showed up. Who bought ‘em? I don’t know. A little bit of mischief goes a long way.”

– Eric Schmidt

The two Google cofounders were also hard at work growing their business. In 2002, they entered into an agreement with America Online (which had more than 34 million subscribers) to provide a small search box on every page that said: “Search Powered by Google”. Google also did similar deals with EarthLink to provide search and Ask Jeeves to provide text-based advertising. Google also moved to charging advertisers only when their ads were clicked rather than every time they were displayed on a computer screen. Google created a 24/7 online marketplace where advertisers could go and purchase ads for specific words and phrases.

“Companies of all sizes were participating in these keyword auctions, spending anywhere from hundreds of dollars to millions each quarter on Google. Turning traditional advertising on its head, these ad buyers determined the price they were willing to pay to get across their message, rather than having Google set the price, as TV networks and newspapers had long done. The self-service nature of the system and the low
minimum ad prices enabled even small firms with no sales staff to jump in and out of the game. On Google, mom-and-pop enterprises had the same opportunity to reach millions of users as a Fortune 500 company.”

– David Vise and Mark Malseed

Due to the fact advertising on Google has turned out to be an extremely efficient way for firms to reach potential customers just at the time when they are about to make a purchase decision, Google’s online ad business has grown rapidly. Google also has established relationships with the biggest and best-known Internet sites including Yahoo, AOL, EarthLink and Ask Jeeves. More than 25,000 Web sites now feature a Google search box creating a network that would be extremely difficult for any competitor to match or replicate. On the strength of that business, Google generated $440 million in sales and $100 million in profits in 2002. Of course, Google kept these numbers quiet in order to stay under the radar of others who had the resources to build or acquire search engines of their own, but the business was definitely in good shape. Google was well on its way to becoming the #1 destination for anyone who wanted to advertise on the Internet.

5. The Google Way

Right from the founding of the company, Brin and Page had decreed that all software engineers employed by the company should spend at least 20-percent of their time – one day a week – working on whatever projects were of interest to them. Brin and Page thought this would send the right signal that Google was a place where bright people could come and do some interesting stuff. The inspiration for this rule came from the fact both of the cofounders had been raised in homes where their fathers were on university faculties where they spent four days a week lecturing and one day each week on their own research.

“The 20 percent time was invented for people to just explore. People are productive when they are working on things they see as important or they have invented, or are working on something they are passionate about. This is also an opportunity to get bottom-up innovation. There is only so much that top management can specify or ordain.”

– Krishna Bharat, Google software engineer

Google doesn’t even specify that its engineers have to use their 20-percent time each week. Instead, some choose to pool their time, and then spend a month or so working solely on the projects they are passionate about. That allows people the flexibility that is sometimes needed to develop successful products.

A good example of this is Google News. It was developed by Krishna Baharat, an Indian software engineer. Using his 20-percent time, he developed a way to cluster stories in categories, update the news articles in real-time and then rank them depending on how many different newspapers or wire services were carrying them. The results could then be personalized to suit the location or preferences of the viewer.

Another example was Froogle, a comparison shopping pricing service which allows users to compare the different offerings of online retailers based on category, price and description. This started out as a small 20-percent project until it gained internal popularity around Google, at which point Brin and Page assigned a team of engineers to build and develop the product. Many other similar innovations are bubbling away in the background at Google all the time as a result of the company’s 20-percent rule.

The company is also steadily expanding its core offerings. On April 1, 2004, Google announced it would provide users with a different type of e-mail service, called Gmail. Every Gmail account would have one gigabyte of storage – roughly 500 times the storage offered by Microsoft and 250 times the storage offered by Yahoo. At first, people weren’t sure whether this was an elaborate April Fool’s Day joke or the real thing, but eventually everyone realized this was an actual service Google would offer. Attention then changed to the fact Google planned on putting small paid ads on the right hand side of the Gmail viewing page, with the ads being triggered by words contained in the e-mail. Various groups saw this as an invasion of privacy, and there was a huge amount of negative publicity. As people became more familiar and comfortable with how Gmail functioned, this became less and less of an issue, but the company was forced to explain its privacy features in greater detail before the future subsided.

Another area where Google has struggled to adapt is in the filtering of pornographic material in the results of Web searches. Some people actively search for pornography using Google, and the company does not censure those requests. Google even generates revenue by selling sex-related ads. But at the same time, the company does try to stop pornography from appearing in the search results of those who are not actually seeking that type of material. The company introduced a feature called “SafeSearch filtering” which attempts to block all inappropriate material from appearing in search results. Google also make a clear statement about the type of ads it will and will not accept. Google rejects ads for hard liquor, beer, political attacks, cigarettes, guns, ammunition, illegal drugs, fireworks, radar detectors and other products. This is the company’s way of making its own political statements about what should and should not be acceptable in society.

6. Google’s Public Offering

Larry Page and Sergey Brin put off taking Google public as long as possible. They realized once competitors like Microsoft and Yahoo knew how profitable Google had become, competition would ramp up quickly. The problem was that Google had now reached the threshold of assets and shareholders by which under U.S. securities laws the company was required to publicly disclose its financial results. Since that information was going to enter the public domain anyway, it made sense to take Google public. Doing so would also allow employees to more readily convert their shares into cash as required.

“For most Silicon Valley entrepreneurs, an IPO was the ultimate dream, a time to bask in the limelight and measure their worth the American way: with dollar signs. But Brin and Page were just the opposite. They loved the privacy, they loved the freedom, and they relished having analysts and competitors consistently underestimate Google’s performance. Since the company was debt-free, self-funded, and had plenty of cash, they didn’t need to sell stock to the public to raise money. The only upside they saw was that they would have more resources to grow and realize their vision for Google. If they were going to go public and give up their privacy, Larry and Sergey agreed to do it their way.”

– David Vise and Mark Malseed
Traditionally, Wall Street investment bankers control the IPO process carefully. They decide what the initial offering price of stock should be, decide which investors will be allocated shares, run the road shows and generally micromanage the process. The investment banks have an incentive to underprice the new offering so it will be easier to sell and the price will shoot up on the first day of trading, validating their smarts. The companies going public, by contrast, want the highest possible price since this will determine how much is raised and ultimately the market value of the entire enterprise. Page and Brin felt they trusted mathematical equations, software and technology far more than they needed to have their hands held by some old-time investment bank throughout the IPO process.

Google therefore decided it would price and sell its stock based on bids received online from potential investors. Everyone who entered a bid at or above the final set price would be allocated stock without any favoritism or input from the investment bankers. Suddenly, millions of Google users, many of whom had never owned a share of a public company in their lives, started looking seriously at buying a few shares. In addition, the company did no road shows for large investors but openly posted information about the IPO process on its Web site for anyone to read.

Despite the unusual method of going public, Google’s financial results spoke for themselves. In the first half of 2004, Google recorded sales of $1.4 billion and a profit of $143 million. This compared favorably with the previous year’s results of $560 million in sales and $58 million in profits. Brin and Page openly stated they intended to continue to run Google the same way as a public company as they had when they were private, and this idealism was widely noted and commented on.

“Google is not a conventional company. We do not intend to become one. We aspire to make Google an institution that makes the world a better place. We are in the process of establishing the Google foundation and intend to contribute significant resources to the foundation, including employee time and approximately 1 percent of Google’s equity and profits. We hope someday this institution may eclipse Google itself in terms of overall world impact.”

 Extracts from the Google SEC filing statement

The Securities and Exchange Commission (SEC) came back to Google asking it to revise or delete many statements from its filing documents. They also asked that all references to the founders and the CEO use their full names or their last names only rather than referring to them by their first names. Page and Brin made the changes which were required but absolutely refused to change the way they referred to people. The SEC also launched an investigation into the company’s internal procedures and whether it had breached any securities regulations prior to this time by issuing stock and options to employees without revealing any financial information.

In addition to all these SEC probes and the fact Google was attempting to raise billions of dollars in what the financial community thought was an unconventional way, other problems arose. Playboy magazine published an interview with Larry and Sergey which broke the SEC rules requiring a “quiet period” before an IPO in which a company cannot make public comments. Geico, an automobile insurance company, filed a lawsuit against Google for trademark infringement alleging Google’s advertising system unlawfully profited from trademarks Geico owned. Two other companies filed similar lawsuits in Germany. And just for good measure, Yahoo also filed a lawsuit alleging Google had breached patents held by one of its subsidiaries, Overture. If Yahoo’s lawsuit could not be resolved, it appeared Google would be forced to change its entire advertising method of generating revenue which underpinned the company’s overall market valuation.

With the possibility the IPO might stall imminent, Google’s two key venture capitalists John Doerr and Michael Moritz sprung into action. They forced Page and Brin to settle the Yahoo lawsuit by giving Yahoo 2.7 million Google shares without admitting whether or not Google had violated the patents. Google’s lawyers filed the Playboy interview as an appendix to the company’s SEC registration statement, effectively making it part of the information officially disclosed. This satisfied the SEC to a large degree. Doerr and Moritz also announced they had slashed the IPO price range from $110-$135 a share down to $85-$95 a share as a reflection of the battering Google had taken during the IPO process. The two venture capitalists also announced their own firms would keep all their Google stock rather than sell it at that lower price, signaling to the market the smart money was on Google’s stock price rising in the months ahead. All of these moves worked, and 19.6 million Google shares were sold at $85 per share. They started trading on the NASDAQ exchange on August 19, 2004 and immediately jumped from $85 to $100.01 per share.

“The offering raised $1.67 billion and gave the company an initial market value of $23.1 billion. Suddenly, Google had a stock market value higher than many older, well-established enterprises. The novel auction process, in the end, achieved one of its two goals: the company, not Wall Street, had remained in control by allocating shares equitably based on investor bids. What the auction failed to achieve was a dearer price for Google stock. By selling shares at $85, the company left plenty of money on the table. Had the offering gone more smoothly, the bidding process been simpler, or Google not been so determined to get the deal done in August, a higher initial public offering price would have been achieved. And the company would have been able to stash more money into its coffers.”

— David Vise and Mark Malseed

“The Google IPO marked a watershed in the relationship between Silicon Valley and Wall Street. Larry and Sergey had pulled off one of the biggest initial public offerings ever, maintaining control over the process and earning the respect of corporate chieftains who had been through the Wall Street mill themselves. Speculation was rampant whether the public offering heralded the dawn of a new era in deal-making for technology companies, or was merely the latest sign of Google’s powerful and unique enterprise. Few other companies could have pulled off the August IPO under such duress. As for Larry and Sergey, they breathed a sigh of relief. They knew things would never be the same, given the legal and other issues hanging over the new public company. But at least life inside the Googleplex had a shot at returning to normal and being fun again. For Brin and Page, the march toward public ownership was finally over. They had done the IPO their way, effectively breaking a Wall Street cartel. They could restore their focus to the business of running their business. Still, with shareholders they had never met, the founders faced an entirely new level of public scrutiny and responsibility. They knew things would never be quite the same, given the legal and other issues hanging over the new public company. But at least life inside the Googleplex had a shot at returning to normal and being fun again.”

— David Vise and Mark Malseed
With the public offering behind them, Larry Page, Sergey Brin and Eric Schmidt got back to work. Larry took the title of President-Products and focused on the day-to-day details of running the business. Sergey’s title was President-Technology. He focused on building the corporate culture, negotiating deals and long-term growth projects. That left Eric Schmidt free as CEO to oversee operations, a big task in and of itself in a high-growth enterprise. Eric focused on scaling up Google’s accounting and financial systems.

Once a week, the senior management team met to discuss projects and requests for resources. More often than not, decisions were made on the spot rather than running through a long and convoluted approval process. Unusually for a high-tech company, these three provided some impressive business skills which matched their combined technical smarts.

Larry and Sergey personally negotiated a deal which literally snatched the AOL Europe business out from under the noses of Yahoo. Whenever Microsoft chairman Bill Gates made public noises about how future versions of Windows would crush and trump Google, Google would do something which widened the gap again. In one memorable incident in the fall of 2004, Microsoft was just about to announce its new search engine had catalogued five billion documents from the Internet, eclipsing the comprehensiveness of Google’s four billion documents indexed. Just a few hours before the Microsoft press release was due to go out, Google announced it had doubled its own index to eight billion Web pages, well surpassing Microsoft’s achievement. Microsoft was caught flat-footed and red-faced.

The ongoing range of innovations which have continued to come out of Google since its IPO are very impressive:

- In October 2004, Google released desktop search – a fast, free way for people to find information of all kinds stored on their own computers quickly and precisely.
- Next Google announced satellite mapping and navigational services. This was followed by video search based on the closed-captioning of television programs and mobile searches by cell phones, PDAs and other devices.
- Google Suggest was released as a way for the search engine to propose search topics as the user typed in their request.
- Google Scholar became available, a means whereby scientific journals, abstracts, theses and technical reports could be searched.
- Google released quick and better ways for users to search for stock quotes, taxis and weather conditions.
- Google Earth became available, enabling computer users to fly to any spot on the planet with 3-D views along the way. Google later added a way to explore the moon’s surface using similar technology.

As impressive as any of these products might be in and of themselves, the fact Google has been able to come out with one new and noteworthy product after another is unprecedented. However, in terms of publicity, even these dazzling new products receded into the fringes when Google announced on December 14, 2004 it intended to digitize and make available online more than 15 million library books drawn from Michigan, Oxford, Harvard, the New York Public Library and Stanford. And as if that prospect alone wasn’t enough to dazzle, Google also announced the company hoped to have digitized and make available around 50 million books in digital format over the next decade or so.

Google’s idea of creating a vast digital library has sparked a worldwide furor. On the one hand, the potential for the advancement of human knowledge is enormous since, for the first time in history, scholars from anywhere in the world would be able to access the full text of the best books available. On the other hand, however, the very idea of doing this has book publishers and copyright owners in a blind panic.

“Even before we started Google, we dreamed of making the incredible breadth of information that librarians so lovingly organize searchable online. I just wanted to be able to search the libraries myself. You get interested in something and want to see the state of human knowledge. Right now, it is really hard for scholars to work outside of their area of expertise because of the physical limitations of libraries.”

– Larry Page

To address the copyright issue, Google proposed to display only the few selected pages or snippets of text which were directly relevant to a user’s query. They also proposed delivering it in an electronic format which could not be copied or printed, and to provide direct links to booksellers who had available copies of the book. As a further act of good faith, Google even offered to share with the book’s publishers the revenue generated from any ads displayed during this process. Google has also announced it will be developing a proprietary content distribution product in the future which copyright owners will be able to use to sell information securely online. In response, the publishing industry is divided over whether Google’s plans will be advantageous or not for them.

Google also has ambitious long-term plans to expand search capabilities into the fields of biology and genetics. Sergey Brin and Larry Page have signaled their goal for Google’s charitable foundation is to empower individuals to live smarter and healthier lifestyles through the prevention and cure of a range of diseases. Towards this end, a lot of the company’s resources are being directed at artificial intelligence and new methods of language translation in order to make it easier for people to find the information they need. Google is also accelerating the arrival of personalized medicines by adding the information about the human genome to its database. The company hopes it will be able to eventually have available a searchable gene catalog which people can use to characterize their ailments, understand their development and then obtain specific medical treatments.

In other areas, Google is also hunting for a clean, renewable energy source which will ultimately power the company’s computers and then be adopted by the broader economic community. Brin and Page have also asked their foundation to become actively involved in causes that work to relieve hunger and poverty through combinations of entrepreneurship, self-reliance and philanthropy. Google regularly helps the micro loans programs which enable people in developing nations obtain small loans to establish their own businesses. Thus far, Google has given out more than $2 billion in small micro loans.

“Why not improve the brain? You would want a lot of compute power. Perhaps in the future, we can attach a little version of Google that you just plug into your brain. We’ll have to develop stylish versions, but then you’d have all of the world’s knowledge immediately available, which is pretty exciting.”

– Sergey Brin
When Google went public in August 2004, its shares were pegged at $100 each, valuing the entire company at $23.1 billion. Most analysts predicted the shares would decline post-float, especially in view of the fact millions of shares held by insiders would become eligible for sale six months after the IPO. Defying these predictions, however, the stock continued to rise in price. Google shares sold at $135 a share in October 2004, $200 in January 2005 and hit $216 per share on February 1, 2005 when the company announced sales for the quarter had topped $1 billion with $200 million in profits. At these prices, Google’s market value exceeded $50 billion, making the company worth more than many of the most prestigious blue-chip firms in America. Since the company steadfastly refused to provide analysts with any guidance about its future earnings, the company is viewed as something of a maverick by the financial community. Regardless of their hesitations, however, many Wall Street analysts have been forced to keep revising their Google share prices upwards. This is even more impressive in light of the fact most analysts worry that Google derives all its income from just the one source – Internet advertising tied to free searches. When Google held its first annual meeting for shareholders on May 12, 2005, its stock price had passed $225 fueled by the latest quarterly results of $1.3 billion in sales and $369 in profits. As Google celebrated its first birthday as a public company in August 2005, it stunned the financial community anew by announcing plans for a $4 billion stock offering. In a whimsical touch, Google announced it would issue and sell 14,159,265 shares – a number representing the first eight digits after the decimal point in pi, the mathematical ratio which is very widely used. Larry Page and Sergey Brin, both 31-years old at the time of Google’s IPO, might have become America’s newest and wealthiest young billionaires, but they seemed to remain largely unaffected. When the Google share price reached $300, Page and Brin both had a personal net worth exceeding $10 billion. They regularly sell about 400,000 Google shares a month providing each of them with around $750 million in cash. CEO Eric Schmidt also sells 113,000 shares every month, giving him more than $225 million since Google went public. Despite all this success, however, Sergey’s mother still keeps reminding him he has only taken a leave of absence from Stanford. She wants Sergey to return to Stanford, write his thesis and finish his Ph.D. In all, employees and major shareholders of Google sold $3 billion worth of Google shares in its first year as a public company. A large number of early Google employees became millionaires. The company itself has also gone shopping, investing hundreds of millions in acquiring or funding a wide range of other companies with interesting technologies. The investment community remains divided on the merits of Google. Mark Mahaney, a well-known Wall Street analyst, advised investors to sell Google stock when it hit $135 in October 2004. He then switched employment and at his new post at Citigroup Smith Barney he became bullish on Google, setting a new price target of $360. Other analysts and commentators are equally divided in their opinions about Google.

“No company is as popular as Google. It would take only a tiny mishap or flattening of advertising growth for the shares to plummet. Does that matter? Probably not, as long as Google remains, as it shows every sign of doing, a proudly independent company. But anybody who takes its lofty valuation too seriously is in danger of making a big mistake.”

– The Financial Times

Google’s success has also had a positive flow-on effect for other companies. In 2004, Google purchase a 2.6-percent stake in a Chinese search engine, Baidu.com. When the Chinese company went public on Wall Street in August 2005, many people pegged the new company as “China’s Google”. On its first day of trading, Baidu’s shares went from $27 to $122 – the biggest first-day gain since the dot-com bubble burst five years earlier. People remembered they had the chance to buy Google at $85 and they didn’t want to let that happen again by failing to get onboard with Baidu.com. Even the commentators who follow the search industry are highly valued. A British company paid $43 million in cash to acquire Search Engine Watch, the web site started by search industry guru Danny Sullivan who continues to track Google’s moves for a global audience of readers. This suggests companies and people are betting the search industry will remain topical for many years to come.

“Google’s own stock market value now neared $80 billion, making the company more valuable than Amazon and eBay combined. While Google thought of itself as an engineering and technology-driven firm, it made its money the same way most media companies did – primarily through advertising. The irony was that a company whose financial strength was built on advertising did almost no advertising itself. It didn’t need to.”

– David Vise and Mark Malseed

“We have figured out ways to stay focused on end users and innovation. We’re sticking to the focus that we talked about in the original founders’ letter around getting all of the world’s information online. And we have been able, even with growth and so forth, to be able to attract the very best and brightest around the world. We’re very excited about the talent we have assembled, the scale that we operate in, the computing power of the technology that we have built here, and all of the innovation. The most direct way to access the world’s information will be through Google.”

– Eric Schmidt

“Google is not a conventional company. We do not intend to become one. Our search results are the best we know how to produce. We do not accept payment for them or for inclusion or more frequent updating. We also display advertising, which we work hard to make relevant, and we label it clearly. This is similar to a well-run newspaper, where the advertisements are clear and the articles are not influenced by the advertiser’s payments. A management team distracted by a series of short term targets is as pointless as a dieter stepping on a scale every half hour. In Warren Buffett’s words, ‘We won’t smooth’ quarterly or annual results: If earnings figures are lumpy when they reach headquarters, they will be lumpy when they reach you. As an investor, you are placing a potentially risky long term bet on the team.”

– Larry Page and Sergey Brin