

APPLE: ANOTHER BYTE

INTRODUCTION

Philip Schiller, Apple's Senior Vice President of Worldwide Product Marketing, opened the Keynote Address at MacWorld 2009 with "It is an incredibly exciting time at Apple". Backed by pictures of new Apple Stores, he talked of the 3.4 million customers that visit the stores on a weekly basis. He spoke of the biggest fiscal year for Mac's ever—9.7 million units sold with a product growth rate twice the industry average. The iPod line holds 70% of the worldwide MP3 market share. Over six billion songs have been downloaded from the iTunes Music Store by 75 million account holders; the iTunes Music Store has over 10 million songs available for purchase and download. The iPhone has been an incredible success and is revolutionizing the mobile telephone industry.

However, all is not well. Although the Mac business has been Apple's strongest growth driver, a combination of the huge drop in the PC market due to the global economic slowdown, a stale desktop Mac lineup, and a perking up in the one area of the PC market where Apple doesn't participate (the low-end, ultra-cheap "netbooks") may lead to a loss this year. At the same time, Fortune magazine reports that the market for MP3 players is "shrinking rapidly"; the year-to-year spending growth rate has flattened and may turn negative in 2009. There is even concern in the iPhone market. Competition from Samsung's Soul U900, Research in Motion's Blackberry line and other mobile device producers threatens the iPhone's position as the market's innovation leader.

Probably more serious than these concerns is CEO Stephen Jobs' health. A pancreatic cancer survivor, Mr. Jobs has looked notably thin and pale in recent appearances. The condition is serious enough to require a leave of absence for medical reasons. Originally attributed to a hormone imbalance in his first letter to employees and shareholders, the follow-up communication called the condition "more complex". Given Mr. Jobs' tenacity and dedication, there is a great deal of uncertainty over his health and his return to Apple. Figures 1 and 2 are January's communications with Apple employees and shareholders.

FIGURE 1
JANUARY 5 2009 LETTER

January 5, 2009

Letter from Apple CEO Steve Jobs

Dear Apple Community,

For the first time in a decade, I'm getting to spend the holiday season with my family, rather than intensely preparing for a Macworld keynote.

Unfortunately, my decision to have Phil deliver the Macworld keynote set off another flurry of rumors about my health, with some even publishing stories of me on my deathbed.

I've decided to share something very personal with the Apple community so that we can all relax and enjoy the show tomorrow.

As many of you know, I have been losing weight throughout 2008. The reason has been a mystery to me and my doctors. A few weeks ago, I decided that getting to the root cause of this and reversing it needed to become my #1 priority.

Fortunately, after further testing, my doctors think they have found the cause—a hormone imbalance that has been “robbing” me of the proteins my body needs to be healthy. Sophisticated blood tests have confirmed this diagnosis.

The remedy for this nutritional problem is relatively simple and straightforward, and I've already begun treatment. But, just like I didn't lose this much weight and body mass in a week or a month, my doctors expect it will take me until late this Spring to regain it. I will continue as Apple's CEO during my recovery.

I have given more than my all to Apple for the past 11 years now. I will be the first one to step up and tell our Board of Directors if I can no longer continue to fulfill my duties as Apple's CEO. I hope the Apple community will support me in my recovery and know that I will always put what is best for Apple first.

So now I've said more than I wanted to say, and all that I am going to say, about this.

Steve

FIGURE 2
JANUARY 14 2009 LETTER

January 14, 2009

Apple Media Advisory

Apple CEO Steve Jobs today sent the following email to all Apple employees:

Team,

I am sure all of you saw my letter last week sharing something very personal with the Apple community. Unfortunately, the curiosity over my personal health continues to be a distraction not only for me and my family, but everyone else at Apple as well. In addition, during the past week I have learned that my health-related issues are more complex than I originally thought.

In order to take myself out of the limelight and focus on my health, and to allow everyone at Apple to focus on delivering extraordinary products, I have decided to take a medical leave of absence until the end of June.

I have asked Tim Cook to be responsible for Apple's day to day operations, and I know he and the rest of the executive management team will do a great job. As CEO, I plan to remain involved in major strategic decisions while I am out. Our board of directors fully supports this plan.

I look forward to seeing all of you this summer.

Steve

APPLE

One Infinite Loop, Apple's street address, is a programming private joke — it refers to a routine that never ends. But it is also an apt description of the travails of parking at the Cupertino California campus. Like most things in Silicon Valley, Apple's lots are egalitarian; there are no reserved spots for managers or higher-ups. Even if you're a Porsche-driving senior executive, you should be prepared to circle the lot hunting for a space if you arrive after 10 am. But there is one Mercedes that doesn't need to search for very long, and it belongs to Steve Jobs. If there's no easy-to-find spot and he's in a hurry, Jobs has been known to pull up to Apple's front entrance and park in a handicapped space. (Sometimes he takes up two spaces.) It's become a piece of Apple lore — and a running gag at the company. Employees have stuck notes under his

windshield wiper: "Park Different." They have also converted the minimalist wheelchair symbol on the pavement into a Mercedes logo. Jobs' fabled attitude toward parking reflects his approach to business: For him, the regular rules do not apply.

When Jobs retook the helm of Apple in 1997, the company was struggling to survive. Today it has a market cap of \$105 billion, placing it ahead of Dell and behind Intel. Its iPod commands 70 percent of the MP3 player market. Over six billion songs have been purchased from iTunes. The iPhone is reshaping the entire wireless industry. Even the underdog Mac operating system has begun to nibble into Windows' once-unassailable dominance; last year, its share of the US market topped 9 percent, more than triple its portion in 2003.

It's hard to see how any of this would have happened had Jobs acquiesced to the standard touchy-feely philosophies of Silicon Valley. Apple creates must-have products the old-fashioned way: by locking the doors and sweating and bleeding until something emerges perfectly formed. In Cupertino, innovation doesn't come from coddling employees and collecting whatever froth rises to the surface; it is the product of an intense, hard-fought process, where people's feelings are irrelevant.

Jobs is a notorious micromanager. No product escapes Cupertino without meeting Jobs' exacting standards, which are said to cover such esoteric details as the number of screws on the bottom of a laptop and the curve of a monitor's corners. "He would scrutinize everything, down to the pixel level," says Cordell Ratzlaff, a former manager charged with creating the OS X interface.

But Jobs' employees remain devoted. That's because his autocracy is balanced by his famous charisma — he can make the task of designing a power supply feel like a mission from God. Andy Hertzfeld, lead designer of the original Macintosh OS, says Jobs imbued him and his coworkers with "messianic zeal." And because Jobs' approval is so hard to win, Apple staffers labor tirelessly to please him. "He has the ability to pull the best out of people," says Ratzlaff, who worked closely with Jobs on OS X for 18 months. "I learned a tremendous amount from him."

In keeping with this culture, Apple's secrecy approaches paranoia. Talking to outsiders is forbidden; employees are warned against telling their families what they are working on. Phil Schiller, Apple's marketing chief, once told *Fortune* magazine he couldn't share the release date of a new iPod with his own son. Even Jobs is subject to the rules. When he took home a prototype of Apple's boom box, the iPod Hi-Fi, he kept it concealed under a cloth.

Secrecy has also served Apple's marketing efforts well, building up feverish anticipation for every announcement. In the weeks before Macworld Expo, Apple's annual trade show, the tech media has been filled with predictions about what product will be unveiled in his keynote address. Consumer-tech Web sites liveblog the speech as it happens, generating their biggest traffic of the year. In the days that follow, practically every media outlet covers the announcements. Harvard business professor David Yoffie has said that the introduction of the iPhone resulted in headlines worth \$400 million in advertising.

Still, Apple's radical opacity has, on the whole, been a rousing success — and it's a tactic that most competitors can't mimic. Intel and Microsoft, for instance, sell their chips and software through partnerships with PC companies; they publish product road maps months in advance so their partners can create the machines to use them. Console makers like Sony and Microsoft work hand in hand with developers so they can announce a full roster of games when their PlayStations and Xboxes launch. But because Apple creates all of the hardware and software in-house, it can keep those products under wraps. Fundamentally the company bears more resemblance to an old-school industrial manufacturer like General Motors than to the typical tech firm.

All this plays to Steve Jobs' strengths. No other company has proven as adept at giving customers what they want before they know they want it. Undoubtedly, this is due to Jobs' unique creative vision. But it's also a function of his management practices. By exerting unrelenting control over his employees, his image, and even his customers, Jobs exerts unrelenting control over his products and how they're used. And in a consumer-focused tech industry, the products are what matter. "Everything that's happening is playing to his values," says Geoffrey Moore, author of the marketing tome *Crossing the Chasm*. "He's at the absolute epicenter of the digitization of life. He's totally in the zone."

THE LINEUP

THE MAC

The Mac line and its predecessors of personal computers has been around in various guises and forms since the mid-1980's. The first iMac was introduced in 1998 and the personal computer line has served as the cornerstone of Apple's lineup ever since. In 1999 the Power Mac G3 Blue & White was introduced. Its mini-tower design included an easy-to-open latch that made it simple to upgrade or repair. The design (or variations of it) has been seen in all Mac mini-towers since its introduction.

Also in 1999, the first iBook was introduced. With its rugged and colorful design, Apple targeted the product to education markets. The iBook sported the first version of Mac OS X Server, QuickTime, and other new server technologies. The 2001 update was the first notebook to have a metal case that has been used in all higher-end Apple notebooks since that time; a more traditional white plastic case was also introduced for Apple's lower-end notebooks.

In 2006, the first Macs to run Intel processors were introduced at the Macworld Expo in January. The first available Intel Macs were the iMac and the MacBook Pro, although Apple completed the transition of all Mac product lines to Intel by the end of the year. Later that year, Mac OS X 10.5 Leopard ships, selling more than 2 million copies in the first weekend. The MacBook Air, released in 2008, becomes the lightest and thinnest Mac notebook ever produced.

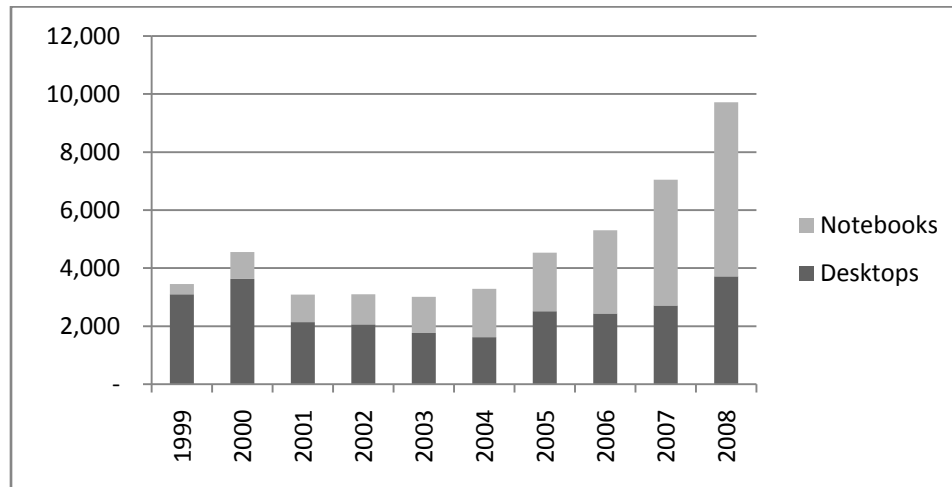
The current Mac line features three notebooks (the MacBook, the MacBook Pro, and the MacBook Air) and three desktops (the iMac, the Mac mini, and the Mac Pro). All are marketed as a combination of “Brains and Beauty”—the world’s most advanced operation system in an aesthetically pleasing glass and aluminum case. Each is shipped with the latest operating updates installed and is ready to go when received. Figure 3 shows the 2008 Apple MacBook Line.

FIGURE 3
APPLE MACBOOK LINE (2008)



Mac sales have increased each year since 2003, accounting for approximately 44% of total revenues for Apple in 2008. This was an increase from 2007 (43%) and 2006 (38%). The rate of recent growth in Mac Sales has outpaced the industry. Apple, like other computer manufacturers, has seen a shift in consumer preference toward notebook computers; this trend continues to accelerate. Figure 4 shows the desktop and notebook sales by year from 1999-2008.

FIGURE 4
APPLE DESKTOP AND NOTEBOOK SALES 1999-2008
(Thousands of Units)



THE IPOD

Tony Fadell, a former employee of General Magic and Phillips, envisioned a brand new MP3 player. Unlike the bulky flash memory-based MP3 players from other companies, Fadell wanted to deliver a small hard drive-based player that was linked with a content delivery system where users could legally obtain and download music. Rebuffed by several companies, Fadell turned to Apple, which years before had sworn off consumer electronics. He was hired in early 2001 and was given a deadline of one year to release a successful product.

The initial iPods used 5 GB Toshiba hard drives that were the size of a quarter, ARM processors, a large high resolution display, a lithium polymer battery, and the most recognizable aesthetic feature of the device - the scroll wheel. Instead of using skip buttons, a user could spin a wheel on the front of the device to scroll through a list of songs to find the song the user wanted to play. The same wheel was also used to control the menus of the system. As a result, it was much easier to navigate through the iPod's playlist than the comparable players.

A major hardware revision came in 2003. The third generation iPod had no mechanical buttons. The function buttons were moved to just below the screen and were solid state, like the scroll wheel. The new version also sported a new dock connector that supported both FireWire and USB 2.0, making it easier for PC users to connect to their iPods. In addition, the new model incorporated lithium-ion batteries. Capacities ranged from 10 GB up to 40 GB. The most important 2003 update to the iPod was not actually a hardware or software feature. It

was the iTunes Music Store. The iPod now had a fully legal supply of content, and made it easier for Apple to rationalize cutting the price of the iPod now that it had another revenue source.

2004 saw several significant events. Early in 2004, the iPod mini was released. The mini had a capacity of 4 GB and was available in five different colors. Because of its size, the controls of the iPod had to be rearranged to fit on the mini. The function buttons were moved to the scroll wheel under a small screen. At \$249, the mini cost much less than many flash-based players available at the time and it had a much higher capacity. In mid-2004, Newsweek featured the iPod and Steve Jobs on the front cover. In October, Apple released the color iPod photo. The iPod photo was identical to an ordinary iPod, but it had a larger battery and more hard drive capacity in addition to a color display. The device did not play movies, but users could browse photo albums. It also showed album covers for songs while they played.

Apple released its first flash-based iPod Shuffle in early 2005. The new player was the size of a pack of gum and costs \$99 (for the 512 MB version). This made it a great value among MP3 players, with most comparably priced players providing half the storage capacity. Later that year, the iPod nano was introduced as the successor to the iPod mini and the fifth generation iPod was released. This release was as significant to Apple as the creation of the iTunes Music Store back in 2002; the fifth generation iPod was capable of playing videos purchased online. Both the nano and video-enabled iPod were equipped with more features including a calendar, address book and games, making the devices behave more like PDA's than pure music players.

In September 2006, Apple replaced the original iPod nano with a more rugged, aluminum-clad model. The 2G nano remained tiny, gained a brighter screen and an improved battery life. At the same time that Apple introduced the second generation nano, the company unveiled the second generation iPod shuffle. Like the new nano, it was encased in aluminum and like the original shuffle, it had no screen. Unlike any previous iPod, it had a built-in clip. And it remained tiny, barely big enough for a clickwheel.

On September 5, 2007, Apple unveiled a completely revised iPod line. The iPod touch, which looks a lot like the iPhone, is basically an iPhone without the phone and camera. The traditional full-sized iPod was renamed the iPod classic and a 160 GB model was released. The iPod nano was morphed from a slim, brushed aluminum design to a wider, powder finished aluminum with a new high resolution two-inch display. The iPod shuffle also received a powdered aluminum finish facelift. The iTunes Wi-Fi Music Store for the iPhone and iPod touch was also opened. Figure 5 shows the Apple iPod family in 2008.

FIGURE 5
APPLE IPOD FAMILY (2008)



Since its initial release in 2002, iPod sales have grown every year. Apple's continual innovations and diversification of the product line has maintained the iPod's position as "THE" MP3 player. Many consumers own more than one unit and multiple websites and Internet forums are devoted to rumors and "inside information" about forthcoming models. Table 1 shows Apple iPod sales by year from 2002-2008.

TABLE 1
APPLE IPOD SALES 2002-2008
(Thousands of Units)

2002	381
2003	939
2004	4,416
2005	22,497
2006	39,409
2007	51,630
2008	54,828

The iPod has dominated the personal MP3 player market since its initial release, not only in market share as measured by the number of units sold but also in market share as measured by dollar volume of sales. Table 2 shows Apple iPod market share as measured by number of units sold and dollar volume of sales from 2004-2008.

TABLE 2
APPLE IPOD MARKET SHARE 2004-2008

Year	By Units Sold	By Dollar Volume
2004	56%	71%
2005	72%	83%
2006	72%	85%
2007	70%	84%

Even as sales have increased, the iPod share of Apple total revenue has declined. In 2006, iPod and related music sales accounted for almost one-half of Apple revenues; this percentage declined to 45% in 2007 and 38% in 2008. The further decline in 2008 is at least partially the result of the release of the iPhone. iPhone sales in 2008 accounted for 6% of total Apple revenues.

iPhone

In 2002, shortly after the first iPod was released, Jobs started thinking about developing a cell phone. He saw millions of Americans lugging separate phones and MP3 players; naturally, consumers would prefer just one device. He also saw a future in which cell phones and mobile email devices would amass ever more features, eventually challenging the iPod's dominance as a music player. To protect his new product line, Jobs knew he would eventually need to venture into the wireless world.

If the idea was obvious, so were the obstacles. Data networks were sluggish and not ready for a full-blown handheld Internet device. An iPhone would require Apple to create a completely new operating system; the iPod's OS wasn't sophisticated enough to manage complicated networking or graphics, and even a scaled-down version of OS X would be too much for a cell phone chip to handle. Apple would be facing strong competition, too: In 2003, consumers had flocked to the Palm Treo 600, which merged a phone, PDA, and BlackBerry into one slick package. That proved there was demand for a so-called convergence device, but it also raised the bar for Apple's engineers.

Then there were the wireless carriers. Jobs knew they dictated what to build and how to build it, and that they treated the hardware as little more than a vehicle to get users onto their networks. Jobs, a notorious control freak himself, wasn't about to let a group of suits tell him how to design his phone. Steve Jobs announced the iPhone during the Macworld Expo keynote address in January 2007. The iPod-sized device runs OS X and is unlike any smartphone that

preceded it. Unlike any previous iPod, there's no scrollwheel at all. Unlike the traditional cellphone, there are no buttons for dialing phone numbers. The iPhone has only one button; everything else is handled via its 3.5" 480 x 320 touchscreen. The iPhone has all the functionality of a video iPod and the ability to automatically rotate screen content based on the iPhone's orientation.

The iPhone was released on Friday, June 29, 2007. It was first available only in the US and sold exclusively through The Apple Store and AT&T Wireless company stores. Apple reported sales of 270,000 units in its first shipment, and AT&T noted that 147,000 were activated that first weekend. By the end of 2007, it was the best selling cell phone that ATT had ever carried and total sales reached 1.4 million units.

The iPhone 3G was introduced in 22 markets on July 11, 2008, and its software was available as an upgrade for owners of the original iPhone. Perhaps the most significant change was the introduction of the iPhone App Store, where iPhone owners could download free and commercial programs for their iPhones. The '08 iPhone is available in 8 GB and 16 GB configurations worldwide and a 4 GB configuration in select market. Apple sold over 11.5 million iPhones worldwide in 2008. Figure 6 shows the '08 iPhone.

FIGURE 6
APPLE iPhone (2008)



WHAT'S NEXT FOR APPLE?

The Mac, iPod, and iPhone have been hugely successful products for Apple. Primarily due to sales of these product lines, firm revenues increased almost four-fold from 2004-2008 while earning per share (EPS) increased from \$0.36 in 2004 to \$5.36 in 2008. Table 3 shows revenue and earnings per share for Apple from 2004-2008.

TABLE 3
APPLE REVENUE AND EARNINGS
2004-2008

YEAR	REVENUE (\$ billions)	EPS
2004	8,279	\$0.36
2005	13,931	\$1.55
2006	19,315	\$2.27
2007	24,006	\$3.93
2008	32,479	\$5.36

However, increased competition and the global economic slowdown have reduced the earnings per share forecast to \$5.18 in 2009.

Technology remains the most highly competitive industry in the global economy. Apple has thrived in this environment due to a combination of hard work, innovative design, and a focus on customer need satisfaction; a driving force behind their success has been the leadership of Steve Jobs. What's next?