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FRANK T. ROTHÄERMEL
DAVID R. KING

Apple Inc.

February 10, 2015. After the market closed, Apple Inc. became the first company to have a market valuation greater than \$700 billion (see **Exhibit 1a**).¹ Apple stock is riding high after selling a record number of iPhones and showing a record \$18 billion in quarterly profit.² These milestones are notable for Chief Executive Officer (CEO) Tim Cook, for since he's replaced the iconic Steve Jobs in 2011, Apple's value has more than doubled—quieting skeptics. Mr. Cook has publicly rejected the “law of large numbers” or the idea that growth rates slow as companies get bigger.³ So far, his instincts have proven right: Demand for Apple products has intensified, particularly in China. Because increasing sales or profits by 10 percent for \$10 million (\$1 million) is a lot easier than growing the same amount from a base of \$18 billion (\$180 million), maintaining double-digit growth can be difficult to maintain. Despite the success of former innovations, under Steve Jobs, that growth often came from the “next big thing.” From where will continued growth now come? Such is what Tim Cook anticipates investors will also wonder (see **Exhibit 1b** for a comparison of Apple's share price to the NASDAQ 100 Index).⁴

The Creation of Apple Inc.

In 1976, Steve Jobs and Steve Wozniak conceived the idea of a personal-computer company and founded Apple Computer Inc. (*computer* was dropped in 2007 to reflect Apple's expansion from the personal computer market to general consumer electronics.)⁵ At just 21 years of age, Jobs sold his Volkswagen to fund the start the company. Jobs and Wozniak, then 26, began to assemble personal computers in Jobs' garage with a small group of friends. Soon after, they received additional financing to spur the growth of the company. In 1978, the Apple II, the first personal computer, was launched and sold for \$666.66.⁶ In December of that same year, Apple launched a successful IPO (initial public offering), making it a publicly traded company. Since its IPO, Apple's market value has risen an astounding 50,600 percent.⁷

By 1980, Apple had released three improved versions of the personal computer, and Jobs and Wozniak had become multimillionaires. The following year, IBM entered the personal computer market and quickly became a serious competitor. IBM's open architecture was easily imitable by other manufacturers and soon became the industry standard, giving rise to many more computer companies in the United States (e.g., Compaq and Dell), as well as in Taiwan, Korea, and other Asian countries. Even more threatening was the consortium among IBM, which specialized in the development of computer hardware; the newly formed Microsoft with its DOS operating system; and Intel with its

Apple Inc.

expertise in memory and processors. By 1982, IBM had increased its profitability and market share substantially, and Apple's position was under attack. Apple responded two years later with the Macintosh, which offered advanced capabilities with an intuitive graphical user interface (GUI), and which they introduced via a dramatic television commercial during the third quarter of the 1984 Super Bowl.⁸ In 1985, Steve Jobs was forced out after a power struggle with CEO John Sculley, a professional manager from Pepsi who was hired two years prior.⁹ Steve Jobs had to watch as the company he founded fell on hard times. By 1996, Apple reported a mere \$69 million in first-quarter revenue and massive layoffs of 30 percent of the company's total work force of 13,400.¹⁰

Steve Jobs Returns

After his public firing from Apple, Steve Jobs pursued other interests (NeXT and Pixar). Apple's purchase of NeXT on December 20, 1996, for \$429 million opened Steve's return to Apple.¹¹ Jobs became CEO again in 1997 and took only a symbolic \$1 salary. He later reminisced, "I didn't see it then, but it turned out that getting fired from Apple was the best thing that could have ever happened to me. The heaviness of being successful was replaced by the lightness of being a beginner again. . . . It freed me to enter one of the most creative periods of my life."¹² Apple largely survived based on a \$150 million investment from Microsoft in August 1997; the intent was to keep Apple and its operating system viable to avoid monopoly antitrust concerns.¹³ However, it gave Steve Jobs needed time to have Apple develop products that shaped future technology and to orchestrate one of the greatest corporate comebacks in modern-day history.

Steve Jobs firmly believed that Apple could create major innovation breakthroughs that would reshape future industries. Jobs' attitude toward innovation as key to a successful strategy and competitive advantage was revealed in an interview that UCLA professor Richard Rumelt conducted shortly after Jobs returned to Apple in 1998:

I was interested in what Steve Jobs might say about the future of Apple. His survival strategy for Apple, for all its skill and drama, was not going to propel Apple into the future. At that moment in time, Apple had less than 4 percent of the personal-computer market. The de facto standard was Windows-Intel [later "Wintel"] and there seemed to be no way for Apple to do more than just hang on to a tiny niche. I said, "Steve, this turnaround at Apple has been impressive. But everything we know about the PC business says that Apple cannot really push beyond a small niche position. The network effects are just too strong to upset the Wintel standard. So what are you going to do in the longer term? What is your strategy?"

[Steve Jobs] did not attack my argument. He didn't agree with it either. He just smiled and said, "I'm going to wait for the next big thing."¹⁴

(See Exhibits 2 and 3 product, geographic and financial performance).

Restructuring Apple

When Steve Jobs returned to Apple in 1997, he was ready and eager to shake things up. In a meeting with Apple's top executives, after hearing all their explanations as to why Apple was performing poorly, Jobs infamously roared: "The products SUCK! There's no SEX in them anymore!"¹⁵ Jobs swiftly refocused the company that he had helped start and discontinued several products such as the Newton

Apple Inc.

PDA, the LaserWriter printer line, and the Apple QuickTake camera—all now collector items for Apple enthusiasts.

During this time of restructuring, Jobs outsourced manufacturing to Taiwan and scaled down the distribution system by ending relationships with smaller outlets. With Jobs' savvy insight for what consumers wanted, he launched a new, revolutionary website to sell Apple products directly to customers online. For the first time ever, he also opened Apple retail stores, tied to his build-to-order manufacturing strategy. Although these moves seemed risky at the time, all of these operational improvements helped to boost previously declining sales. For the first time in five years (since 1993), Apple once again became profitable.

Jobs also realized the necessity of making Apple's operating system more accessible for software providers. He switched everything to the open-source, UNIX-based operating system, Mac OS X. This proved to be a more stable operating environment and permitted the company to issue annual upgrades in response to customer feedback. In 2005, Apple completed this transition by switching from PowerPC to Intel processors, which meant that Apple computers could run not only the Mac OS X but also any operating systems that used the x86 architecture. This marked the beginning of a truly open era for Apple computers: They were now the most flexible, as well as the most attractive. As a result, Apple's stock price rose from \$6 in 2003 to over \$80 in 2006, surpassing even Dell's market cap, the then-number-one computer maker in the United States.¹⁶ Dell's CEO, Michael Dell, was left retracting the words he had very publicly spat nine years prior, "If I ran Apple, I would shut it down and give the money back to shareholders."¹⁷

Beyond changing the operating system, the most visible change Jobs instituted was leveraging industrial design to produce more aesthetically pleasing computers. Jobs almost instantly revitalized Apple's image by pushing the limits of technology and design. He appointed Jonathan Ive, a British designer, head of Apple's in-house Industrial Design group (IDg). There have been several distinct design themes in Jobs and Ive's collaboration over the years: translucency, colors, minimalism, and dark aluminum. Ive has been credited with being the chief designer of the iMac, the aluminum and titanium PowerBook G4, the MacBook, unibody MacBook Pro, the iPod, iPhone, and iPad.¹⁸ Ive's work at Apple has won him a slew of awards and widespread recognition.

Jobs also started to brand Apple as a functionally appealing, hip alternative to other dull, clone-like computers in the market. Known for his candor, Steve Jobs once accused Michael Dell of making "un-innovative beige boxes."¹⁹ Continuing in the same vein as the infamous 1984 television ad, Apple launched its "Think Different" campaign in 1997. The aim of the campaign was to reflect the culture of Apple, which comprised great people who think differently. The television advertisements featured major artists, scientists, and politicians who were seen as independent thinkers, including Albert Einstein, Martin Luther King, Jr., John Lennon, Thomas Edison, Amelia Earhart, Alfred Hitchcock, Pablo Picasso, and Jerry Seinfeld. Similarly, Apple's print advertisements had less to do with specific products, and everything to do with company image. They simply featured a portrait of one of the historic figures and a small Apple logo with the words "Think Different" in the bottom corner. In 2002, Apple launched the "Switch" advertising campaign, which showed various celebrities and non-celebrities talking about the reasons they switched from Windows computers to Apple computers. The "I'm a Mac, I'm a PC" commercials in the last half of the decade, which featured young actor Justin Long as a "Mac" and a middle-aged man (comic John Hodgman) in a suit as a "PC," helped to fortify the image of the Mac as young and hip and the PC as only suitable for business and not the creative needs of the younger generation.

Apple Inc.

Apple's Culture

As early as 1983, Steve Jobs coined the following motto at an offsite retreat: "It's better to be a pirate than join the navy."²⁰ Jobs' Macintosh team had only 80 employees at the time, but already he sensed that they were developing the group-think mentality that he detested. In response to "Captain" Jobs' cry, programmers Steve Capps and Susan Kare painted a rainbow-colored Apple eye patch onto a pirate flag and hung it above the Macintosh building. This iconic image became illustrative of Apple's unique corporate culture and also symbolic of Apple's first inspired slogan in the late 1970s, "Byte into an Apple."

According to its website, working at Apple was "less of a job, more of a calling."²¹ Apple looked for employees who were on a mission to "change the world" and create "some of the best-loved technology on the planet."²² Apple promoted itself to prospective candidates as "a whole different thing" with "corporate jobs without the corporate part."²³ Apple looked for people who were "smart, creative, up for any challenge, and incredibly excited about what they do. In other words, Apple people. You know, the kind of people you'd want to hang around with anyway."²⁴ From the start, Steve Jobs had been more than instrumental in developing Apple's envied corporate culture. Employees typically worked 60 to 70 hours a week, and no one complained.

Apple has been thought of as putting Silicon Valley on the map with its hard-working but relaxed, casual atmosphere.²⁵ This characterization would be an impossible contradiction in most other corporations in the United States, but not at Apple. When Jobs returned to Apple in 1997, he became famous for his standard black turtleneck and jeans uniform, walking around the campus with, or sometimes without, his sneakers. Jobs even went barefoot to a 1999 meeting to settle a patent dispute with executives from Microsoft.²⁶ Jobs was the ultimate example of an "I'm-a-genius-and-I-don't-care" attitude. Apple employees embraced their hero and became convinced that, with confidence and creativity, they too could become rich and leave a legacy—sans suit or shoes.

Apple's rebel spirit not only attracted a long-lasting appreciation from loyal employees but also created an almost cult-like following among customers who appreciated Apple's propensity to think differently. Millions of people wanted to be seen as unique individuals, and hence, millions of people bought Apple products. The "Cult of Apple" was a group of rumored fanatical followers devoted to all things Apple, but "while there are many customers who eat, think, and breathe Apple, members of the Cult of Apple take their devotion one step further and *believe* in Apple."²⁷ The result was that Apple had a conspicuous horde-like following walking down the streets of every major city in the world with the signature white ear buds of Apple products attached to their heads. Apple products became so trendy that other companies had to design their consumer electronics like Apple's to have a hope of selling. The loyalty of Apple customers has served the company well, and now it is not just the die-hard fanatics who believe. Even people in the mainstream were becoming Apple converts.

Innovation at Apple under Steve Jobs: iPod/iPhone/iPad

The one competency that kept Apple on the cutting edge, all the way from startup to survival and success, has been innovation that others envy. "Innovation distinguishes between a leader and a follower," Jobs repeatedly said.²⁸ Jobs believed that innovation is a process that can be cultivated and managed within an organization. It begins with idea generation, then moves to idea adoption and development,

Apple Inc.

and finally to idea implementation. All the while, the innovation process has been enabled by effective leadership and a supportive organizational culture.

Apple's top management was also critical in the effort to nurture an innovative organization because employees needed to know that they would not be reprimanded for making risky choices when attempting a creative project. A high tolerance for failure and calculated risk-taking is necessary for employees to feel comfortable bringing up new ideas in any organization.²⁹ Apple's work force appeared to have embraced this attitude fully, as they proudly "[said] NO to 1,000 things."³⁰

Compared to its competitors, Apple spends less, but an increasing amount, on research and development (R&D) with expenses of \$6.0 billion, \$4.5 billion, and \$3.4 billion in 2014, 2013, and 2012 respectively, which ranges between 2.2 to 3.3 percent of revenues (see **Exhibit 4**).³¹ Comparing the amount of money spent at Apple with that of other technology giants shows how effectively Apple's innovation process works, making possible a significant return on R&D investment. In fact, Jobs was known to say: "Innovation has nothing to do with how many R&D dollars you have. When Apple came up with the Mac, IBM was spending at least 100 times more on R&D. It's not about money. It's about the people you have, how you're led, and how much you 'get it.'"³² (See **Exhibit 5a** for a historical timeline of Apple's product introductions and net income.)

THE IPOD

The big bang happened at Apple in October 2001 with the launch of the iPod, a portable digital music player based on the MP3 music format. The sleek design and smart graphical user interface bewitched consumers. The product was an instant hit, selling over 100 million units within six years.³³ The profitability of the iPod was phenomenal, with margins estimated as high as 47.4 percent before freight, marketing, and other costs.³⁴

In April 2003, Apple provided iTunes as a complement for the iPod. iTunes was the first online store from which customers could buy songs individually at 99 cents each, rather than purchasing entire albums for upward of \$15 to \$20 or downloading songs illegally. Within three days of launch, iTunes users had downloaded one million songs. By June 2008, iTunes had exceeded five billion downloads.³⁵ On February 25, 2010, which was coincidentally Steve Jobs' 55th birthday, Apple achieved the great milestone of 10 billion iTunes downloaded. Apple had seemingly effortlessly established itself as the newest icon of the digital age, revolutionizing the music industry and holding fast to its leadership position in the technology race.

In keeping with its iconoclastic reputation, Apple promoted its iPod as a stylish alternative to archetypal music technology products with the new "iPod People" campaign. Ads featured several silhouetted people with white headphones in their ears dancing against a colorful background. Apple advertising had always been creative by design, but its "iPod People" promotion brought in an unmistakable "coolness-factor" as the essence of the product. That desired attribute was directly transferred to the customer upon purchase.

THE IPHONE

In June 2007, Apple launched the iPhone, and soon Apple's share price passed the \$100 mark.³⁶ The iPhone was a multifunction smartphone that provided the customer with a unique touch-based interface and a revolutionary operating system delivering a computer-based experience. According to Jobs,

Apple Inc.

the iPhone was “the Internet in your pocket.”³⁷ Apple partnered with AT&T to bring this device to the market and make it affordable for consumers. AT&T was happy to subsidize the phones, as long as it could ride the Apple wave of “coolness” and innovation.

One year later, Apple launched the iPhone 3G, which was advertised as twice as fast at half the price. The iPhone 3G supported all Microsoft document formats and had full support for a Microsoft Exchange server. Apple sold a record six million 3G iPhones in the first year, giving birth to a whole new generation of smartphones. In the summer of 2010, Apple released the iPhone 4 with two built-in cameras and higher resolutions. In that same year, Apple had captured 17.4 percent of the smartphone market, with 82 percent sales growth since 2008. It had taken only two years for Apple to jump to second place behind Nokia, with 32.7 percent market share. The iPhone 4S, an update to the iPhone 4 with a voice assistant known as “Siri,” was released in October of 2011. The iPhone 5, which had a larger screen and was the first 4G iPhone, was released in September of 2012. The iPhone 6 represented more of an update and included the iPhone 6 Plus to better compete with larger phones from Samsung. The larger size enables better battery life, and it comes with a better camera. However, combined with the thin size the larger area has raised problems with the iPhone 6 bending.³⁸ As of early 2015, only 15 percent of customers have updated to the iPhone 6 providing room for additional sales.³⁹

THE iPad

On January 25, 2010, Jobs took his biggest gamble yet with the announcement of the iPad, a multimedia, tablet-style computer designed to take the place of a pencil and pad of paper.⁴⁰ (See Exhibit 5a for a historical timeline of Apple’s product introductions and net income.) The iPad ranks among the most successful product launches ever, taking it only 28 days (compared to 74 for the iPhone 3) to sell more than 1 million units.⁴¹ The idea of a keyboard-free, touchscreen portable computer tablet had been around for more than two decades. Apple had even launched its own Newton MessagePad in 1993, which became known less for its pioneering features and more for being ridiculed in “Doonesbury” for the software’s problem in recognizing handwriting.⁴² At half-an-inch thick, weighing 1.5 pounds, with a 9.7-inch “gorgeous, super-high quality display” and that was “multi-touch, super-responsive, and super-precise,” Apple had come a long way since the Newton.⁴³ The iPad offers Wi-Fi wireless connectivity—enabling access to e-mail, photos, video, music, games, and e-books, as well as browsing the web. Additionally, the iPad incorporates features like a calendar, photo manager, spreadsheets, and presentations to take on a more multimedia look.⁴⁴

There was concern the iPad would cannibalize sales of other Apple products, but Jobs believed there was room for a third category between the laptop and smartphone, but acknowledged that “it must do things far better than both existing devices.” Jobs argued that if the iPad could not do some tasks better than laptops or smartphones, it was unnecessary.⁴⁵ Unlike the iPhone, the initial iPad lacked a built-in camera for taking photos. While Jobs hailed the iPad as “a dream to type on,” for many it was not as easy as a typical keyboard with tactile keys to feel. This caused many customers to express disappointment with the iPad as doing less than the iPhone, but on a bigger screen.^{46, 47} In March 2011, Steve Jobs, in typical showman fashion, unveiled the iPad2, a thinner and sleeker but higher-performing version of the original iPad. The iPad2 also contained two cameras to facilitate online video chat.⁴⁸

With the introduction of the iPad, Apple increasingly became a mobile-devices company, competing against Sony, Samsung, and Nokia.⁴⁹ At the same time, Apple faced direct competition from other computer manufacturers, who were quick to jump on the iPad bandwagon, hoping to undercut Apple’s

Apple Inc.

price to gain market share. For example, Hewlett-Packard announced its own keyboardless computer called the "Slate," and Dell, Acer, and Sony were all refining their own versions of the tablet. In addition, the iPad has faced increased competition from the new mini-laptops or "netbooks." By the time the iPad turned five in 2015, competing products in the form of tablets and larger phones led to the first annual decline in tablet sales and iPad sales fell almost 18 percent.⁵⁰ (Exhibit 5b shows Apple's product sales by category, 2006–2014).

Tim Cook, Apple's New CEO

After going on his second medical leave in two years following a liver transplant in 2009, Steve Jobs put Tim Cook in charge.⁵¹ Tim Cook was appointed CEO on August 24, 2011. A few weeks later, on October 5, 2011, Steve Jobs lost his battle with cancer.

Tim Cook, who had an MBA from Duke University and a BS in Industrial Engineering from Auburn University, had been Apple's Chief Operating Officer (COO) since 2007. He directed the outsourcing for most of Apple's production in a business where obsolescence can decrease the value of unsold goods by 2 percent a week.⁵² While Tim Cook's leadership style clearly differs from that of Steve Jobs, Cook's attempt to balance things out reflects a keen awareness of Jobs' impact on Apple. To keep a balance of the two styles of leadership, Cook kept Jobs' office exactly how he left it, but also enacted initiatives to signal that someone different was in charge. Tim Cook's first initiative was something Steve opposed: matching Apple employee charitable donations up to \$10,000 a year.⁵³ Cook also announced that the company would begin paying a dividend in 2012.

Maintaining Apple's success without Steve Jobs was alone a singular challenge, but so was maintaining innovation. In 2011 Apple's most noticeable product changes involved color—popular products were now being offered in white. In 2012, Apple released the iPhone 5, which was thinner than previous iPhones and had a larger screen. The new iPhone smashed pre-order records, but the release was marred by the replacement of Google maps with Apple software, leading to the firing of Scott Forstall, the head of mobile software. Forstall had clashed with other executives, and Steve Jobs was not there to mediate.⁵⁴ Tim Cook continues to face the challenges of maintaining a management team and continuing to release innovative products. These challenges are reflected in the fact that Tesla, which promises to maintain a culture like what Steve Jobs had created, has attracted more than 150 former Apple employees.⁵⁵

iNEXT?

An area where the loss of Steve Jobs is still keenly felt is product innovation. Since 2010, with the debut of the iPad, Apple has not introduced a new flagship product. Introducing new products to maintain continued revenue growth and profitability is an evident concern for Tim Cook. He appears to be trying to leverage Apple's flagship product the iPhone, as well as developing new products. Following are brief descriptions of Apple's current efforts.

BEATS HEADPHONES

In 2014, Apple acquired Beats Electronics for \$3 billion and will maintain it as a separate brand.⁵⁶ Beats was co-founded by rapper Dr. Dre and its headphones and speakers emphasize bass or hearing

Apple Inc.

music as artists do. Prior to its acquisition, Beats Electronics had over \$1 billion in sales. Beats headphones and portable speakers serve as complements to iPhones and iPods by delivering a superior sound for music.

APPLE WATCH

In early 2015, Apple announced that it would begin selling the Apple Watch starting in April. Originally envisioned as a health-monitoring device, many of those functions did not make it in the initial product and it is unclear what consumer need the Apple Watch will fill.⁵⁷ The Apple Watch costs \$350 dollars for the entry model, and it only works with an iPhone. The watch's most obvious function is enabling a more discrete method of checking who is calling or texting a person.⁵⁸ The Apple smartwatch is positioned to be a luxury fashion accessory, with the 18-carat gold version priced around \$17,000.⁵⁹

APPLE PAY

Apple's approach to mobile payment is called Apple Pay. While currently a small part of Apple's revenues, Apple Pay accounts for two-thirds of rapidly growing mobile payments.⁶⁰ The number of companies accepting payments is limited to the United States. However, even though Apple Pay was accepted by only 15 companies in 2014, it is projected to grow to 53 by 2015.⁶¹ Still, Apple Pay continues to depend on consumers conjointly using their iPhone 6 or iPhone 5 with Apple Watch. APPLE TV In March 2007, Steve Jobs introduced the first-generation Apple TV to the world, having referred to it more as a "hobby" than a mainstream product. The first-generation model was a box that connected to a user's television set. It allowed the user to sync and then play his or her downloaded content from the iTunes Store. The content could be rewound or fast-forwarded, making the Apple TV the equivalent of the modern-day satellite or cable DVR. The 2012 generation of the Apple TV provided users with more flexibility to view content from their iPhone, iPad, or iPod. Additionally, users can watch movies, play music, show off their videos and photos, and even mirror what's on their device's screen to enjoy games, web pages, and more. Ultimately, Apple TV allows users to access all of the benefits of their complementary Apple products from their living rooms. The latest generation model retails for \$99. However, the complexity of dealing and integrating with established broadcast cable providers and hardware design and supply issues have held back Apple TV. Even with these holdups, Apple continues to have an "intense interest" in television, and the company continues to test high-definition TVs and possible partnerships with cable companies. There are consistent rumors about an Apple-branded television (iTV), but the anticipated timelines continue to shift without an official product. The biggest hint about an Apple TV came from the 2011 biography on Steve Jobs that indicated Apple solved the television interface concept for a dedicated Apple television set. In 2013, Apple's acquisition of PrimeSense, the company behind the technology of Microsoft's Kinect motion-control sensor for its Xbox, implied it wanted to change how people interacted with televisions.⁶²

APPLE CAR

Apple's latest rumored project is an electric car under the code name "Titan" that resembles a minivan.⁶³ Electric vehicles are costly to build and Apple's efforts lag behind those of another Silicon Valley firm, Tesla. The cost and performance of batteries for electric vehicles and the lack of an established

Apple Inc.

standard limit the acceptance of electric cars; in 2014, Nissan's Leaf led the market with just 40,000 cars sold.⁶⁴ Further, the automobile industry has higher rivalry that relates to lower industry profitability. Ford and Nissan understand the automobile industry well and have opened research labs in Silicon Valley.⁶⁵ It is also worth noting that several companies are developing driverless cars, including Google, which revealed a prototype in 2014.⁶⁶ However, government regulations, questions of liability for crashes, and questions of customer acceptance sow progress on automated cars.

Current Competitors

Apple's exceptional performance, brand loyalty, and innovation capabilities would make any CEO envious. Also, as the industry continues to evolve, the lines between hardware, software, and search engines have blurred as each company vies for market share and dominance. The following companies pose the biggest threat to Apple and consistently seek opportunities to take market share away from the industry giant. (See **Exhibit 6** comparing Apple's monthly stock performance versus selected competitors between January 2010 and January 2015.)

AMAZON.COM

Founded in 1994 by Jeffrey Bezos as an online book retailer, Amazon's sales grew from \$20,000 in 1995 to over \$74 billion in 2013.⁶⁷ After the company went public in 1997, it rapidly diversified into multiple product areas, undercutting existing specialty and brick-and-mortar retailers in price.⁶⁸ In 1998, Amazon launched its online music and video store and began to sell toys as well as consumer electronics; it added clothing in 2002. More recently, Amazon has engaged in a series of acquisitions to further expand the breadth of products offered. The firm acquired the number one online shoe retailer, Zappos, for \$890 million in 2009. In 2010, Amazon added both Woot, a social shopping e-commerce site, and Quidsi, the owner of Diapers.com and Soap.com, to its portfolio. By 2012, Amazon employed 51,300 people all over the world and had climbed to number 56 in the Fortune 500.⁶⁹

The Kindle Fire tablet product line is seen as a direct competitor to the iPad. In January 2013, the Kindle Fire accounted for 7.78 percent of web traffic from tablet computers in North America compared to the iPad's 81 percent.⁷⁰ The Kindle Fire runs Google's Android operating system and the Kindle Fire HD was announced in September 2012 and comes in two different sizes: 7 inches and 8.9 inches. However, Amazon's share of the tablet market remains low with a 2.3 percent market share and an annual decline of almost 70 percent between 2013 and 2014.⁷¹ Separately, Amazon's Fire Phone that launched in 2014 was not a success.

Apple's iBookstore competes with Amazon's Kindle, and Apple set the maximum e-book price at the cost of printing the book, so publishers were able to charge anywhere from \$12.99 to \$14.99 for most titles. Apple retained 30 percent of the sale price and returned the remaining 70 percent to the publishers. The aspect that appealed to publishers was that they were able to determine the prices of e-content, and this gave them leverage to negotiate higher prices for their content with Amazon. It was even possible that publishers would withhold titles from Amazon if they did not agree to raise their prices. As a result, the competition between Apple and Amazon "is as intense a situation as the industry has ever had. . . . It's a huge chess match."⁷²

Apple Inc.

GOOGLE

In 1998, 24-year-old Sergey Brin and 25-year-old Larry Page founded Google. They met as graduate students in the computer science department at Stanford University where they began working together on a web crawler, with the goal of improving online searches. What they developed was the PageRank algorithm, which returns the most relevant web pages more or less instantaneously and ranks them by how often they are referenced on other important web pages. A clear improvement over early search engines such as AltaVista, Overture, and Yahoo, all of which were indexed by keywords, the PageRank algorithm is able to consider 500 million variables and three billion terms. What started as a homework assignment launched the two into an entrepreneurial venture when they set up shop in a garage in Menlo Park, California.

Today, Google is the world's leading online search and advertising company, with some 70 percent market share of an industry estimated to be worth more than \$25 billion a year, and growing quickly. Google's current operating system, Android, is used exclusively by Samsung Electronics, a Korean electronics maker, in all of its smartphone devices. As an alternative to the iPhone, Android phones created by Samsung, HTC, and others have rapidly stolen market share from Apple and BlackBerry. Samsung especially has been able to create phones running Android that are viable alternatives to the iPhone. In a move into the hardware space, Google acquired Motorola Mobility in 2011 and plans to release its own phones and tablets running Android. Google would have more control over the hardware and ideally be able to optimize the hardware for future Android features. By controlling the software on mobile devices, Google plans to also control the ads shown to users, thus extending its hold on the digital ads market, its main source of revenue. Android's market share in smartphones worldwide has grown from over 50 percent in 2011 to over 84 percent in 2014.⁷³ Google is also moving into mobile payments with Wallet; however, Google has less control over how its operating system is used and retailers have been slow to adopt the system.⁷⁴

Google's Chromebook is a line of laptop computers running Google's Chrome operating system. The Chrome OS is designed to provide the user with the minimal amount of hardware and installed applications needed. The user runs applications from the cloud and uses Google's Chrome browser to access these applications. Several manufacturers such as Samsung, Acer, and HP are partnering with Google to create Chromebooks.

Google is also looking to develop more web-connected services for people's homes, powered by the Android operating system. In addition, Google is trying to enter the high-speed Internet market so it can deliver its products to customers without having to worry about poor connection speeds or being blocked by competitors. In 2012, it began wiring homes in Kansas City, both the Missouri and Kansas sides, with plans to expand to other locations around the United States in 2013.⁷⁵ Google is also attempting to hold off both Facebook and Amazon by enabling retailers to reach consumers through its search engine exclusively.

MICROSOFT

The partnership that Paul Allen and Bill Gates formed in 1975 started out small, but Gates had a vision to one day put a computer in everyone's home. During the next several decades, their company, Microsoft, revolutionized the way people worked and played on their computers, as Microsoft dominated the technology market with its Windows operating system in the 1990s and early 2000s.⁷⁶ The explosion of mobile devices led by Apple has Microsoft playing catch-up.

Apple Inc.

To compete with the iPad, Microsoft released its Surface tablet in October of 2012 with a large campaign focused on comparing it to the iPad. The Surface has an attachable keyboard/cover, a USB port, and runs the Windows 8 operating system. Furthering Microsoft's presence in the smartphone market was Apple's acquisition of Nokia devices and services in 2014 for more than \$7 billion. This acquisition returned Nokia's CEO Stephen Elop to Microsoft as an executive vice president of the Microsoft Devices Group—the same group responsible for Lumia smartphones and tablets, Nokia mobile phones, Xbox hardware, Surface, and other products.⁷⁷

Like Apple, Microsoft has opened its own stores to sell Microsoft and third-party products that run Microsoft's software. The company is also working on an update to its Windows operating system—causing it to skip from the number 9 to the number 10 version in an attempt to emphasize the significance of the upgrade. Microsoft plans to use Windows 10 across all its products (computers, tablets, phones, and Xbox).⁷⁸ It has also announced plans to offer free customer upgrades to Windows 10, which can boost their operating systems market share; this move suggests a shift in its business model—one that may rely more on annual subscriptions for upgrades.⁷⁹

SAMSUNG

On March 1, 1938, Byung-Chull Lee started Samsung, which means *three stars* in Korean, as a small export business focusing primarily on fish, vegetables, and fruit. Within a little over 10 years, Samsung would have its own manufacturing and sales operations. Today, the technology giant sells products around the globe and is instantly recognized for its innovative, consumer-driven products.⁸⁰ By 2012, Samsung Electronics had become the global smartphone market leader, due mostly to its extremely successful Galaxy S device and subsequent versions, which run on Google's Android operating system. The phone is comparable in both design and technical features to the iPhone and poses the biggest competitive threat to Apple. It is estimated that Samsung holds roughly 24 percent of the smartphone market, down from 32 percent in 2013, while Apple's global market share has fallen to approximately 12 percent in 2014.⁸¹

Together, Samsung hardware and Google software have combined to provide a product comparable in quality and experience to the iPhone. Competition between Apple and Samsung is extending into mobile payments by offering LoopPay that works with over 10,000 banks.⁸² One of the main drivers of Samsung's rise has been its two-pronged pricing structure. Its premium products are priced similarly to Apple's in the United States, but the company also heavily discounts the prices of some phones, sometimes to less than a quarter of the suggested retail price. Additionally, Samsung manufactures all of its own smartphones, including the components, which gives it a distinct cost advantage over its closest competitors. Even Apple uses Samsung to manufacture a portion of its iPhone product line. For the low-end and emerging smartphone markets, Samsung also provides a competitive lower cost.

The intense competition between Apple and Samsung has led to many legal battles, mostly over patent infringement. In August 2012, a U.S. federal court ruled in favor of Apple in one such case, awarding it more than \$1 billion in damages (later reduced to some \$500 million). Separate infringement cases are pending in various other countries around the world pertaining to the design and technology of both companies' devices.

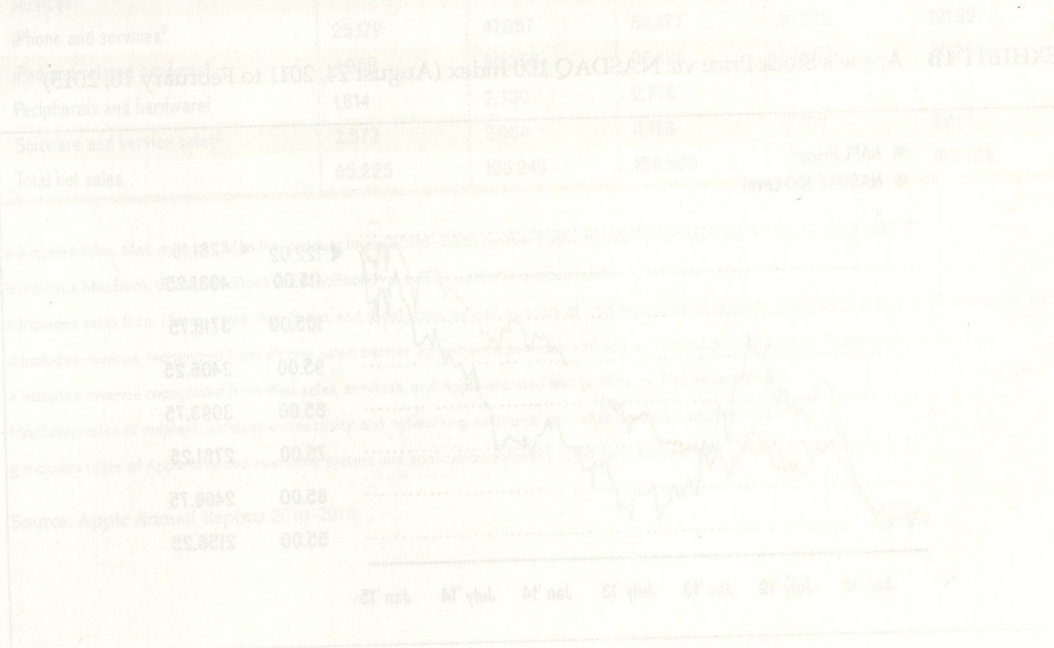
Apple Inc.

Challenges Ahead

Despite Apple's incredible performance over the last few years, Tim Cook knows all too well that Apple faces significant challenges. Perhaps Apple's greatest challenge involves investors and consumers having big expectations. Despite Tim Cook dismissing the "law of big numbers," it remains to be seen from where the continued growth will come. In Apple's record-breaking quarter at the end of 2014, the popular iPhone accounted for two-thirds of its \$74.6 billion in revenue.⁸³ This largely came from success in selling iPhones in China; however, new sales to customers there and in established markets will require convincing people with smartphones to replace them or buy products to complement them. For example, the Apple Watch represents an accessory to a device that performs existing functions well, and it is unclear why consumers will need or want the device.⁸⁴

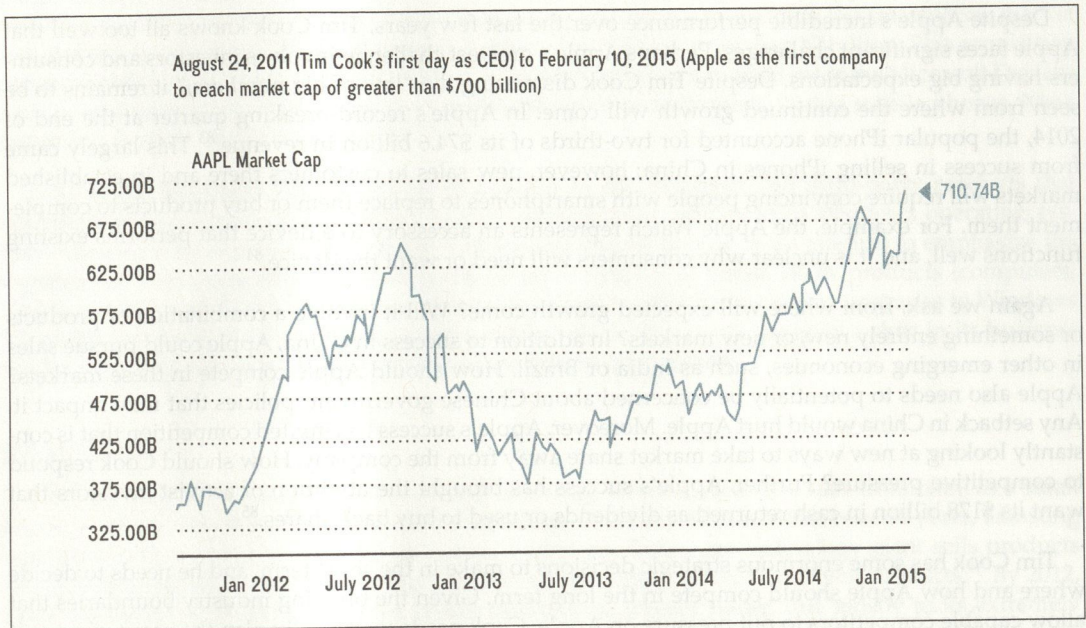
Again we ask, from where will expected growth come? Will it involve a combination of products or something entirely new, or new markets? In addition to success in China, Apple could pursue sales in other emerging economies, such as India or Brazil. How should Apple compete in these markets? Apple also needs to potentially be concerned about Chinese government policies that may impact it. Any setback in China would hurt Apple. Moreover, Apple's success has invited competition that is constantly looking at new ways to take market share away from the company. How should Cook respond to competitive pressure? Further, Apple's success has brought the attention of activist investors that want its \$178 billion in cash returned as dividends or used to buy back shares.⁸⁵

Tim Cook has some enormous strategic decisions to make in the short term, and he needs to decide where and how Apple should compete in the long term. Given the blurring industry boundaries that allow capable competitors to put pressure on Apple, Cook needs to carefully plan the company's next moves if he wants to sustain Apple's competitive advantage and growth. As his MacBook Pro boots up, Cook pops open a can of Diet Mountain Dew and begins to jot down some of his thoughts.



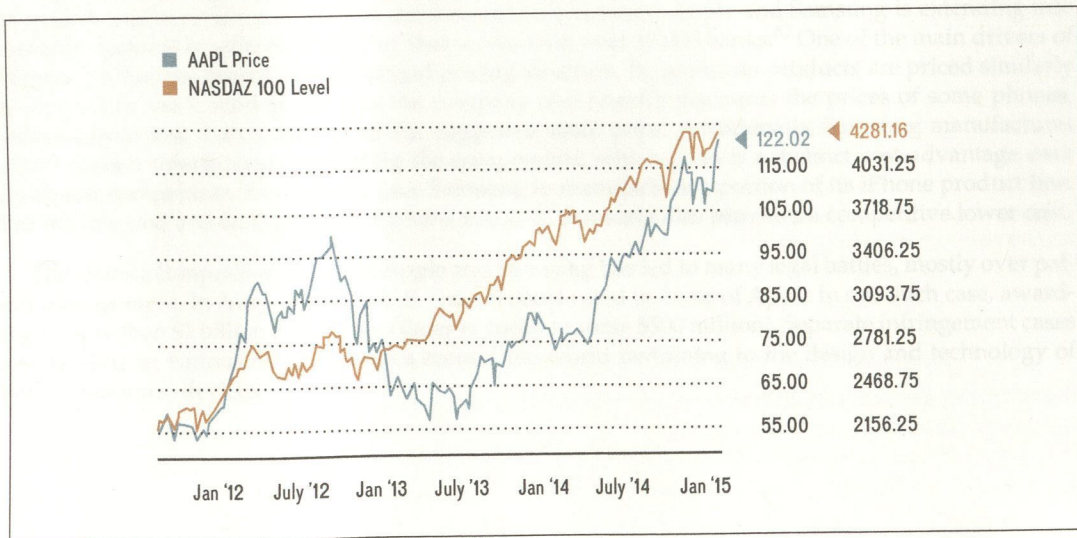
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EXHIBIT 1A Apple's Market Cap in Billion \$



Source: Author's depiction of publicly available data using YCHARTS, <http://ycharts.com/>.

EXHIBIT 1B Apple's Stock Price vs. NASDAQ 100 Index (August 24, 2011 to February 10, 2015)



Source: Author's depiction of publicly available data using YCHARTS, <http://ycharts.com/>.

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EXHIBIT 2A Apple's Regional Sales, 2010–2014 (in \$ millions)

Net Sales by Operating Segment	2010	2011	2012	2013	2014
American net sales	24,498	38,315	57,512	62,739	65,232
European net sales	18,692	27,778	36,323	37,883	40,929
Japanese net sales	3,981	5,437	10,571	13,462	14,982
Asia-Pacific net sales	8,256	22,592	33,274	36,598	39,190
Retail net sales	9,798	14,127	18,828	20,228	21,462
Total net sales	65,225	108,249	156,508	170,910	181,795

Source: Apple Annual Reports 2010–2014.

EXHIBIT 2B Net Sales by Product, 2010–2014 (in \$ millions)

Net Sales by Product	2010	2011	2012	2013	2014
Desktops ^a	6,201	6,439	6,040		
Portables ^b	11,278	15,344	17,181		
Total Mac net sales	17,479	21,783	23,221	21,483	24,079
iPod	8,274	7,453	5,615	4,411	2,286
Other music-related products and services ^c	4,948	6,314	8,534	16,051	18,063
iPhone and services ^d	25,179	47,057	80,477	91,279	101,991
iPad and related products ^e	4,958	20,358	32,424	31,980	30,283
Peripherals and hardware ^f	1,814	2,330	2,778		
Software and service sales ^g	2,573	2,954	3,459	5,706	6,093
Total net sales	65,225	108,249	156,508	170,910	182,795

a Includes iMac, Mac mini, and Mac Pro product lines (2008–2010 numbers also include Power Mac and Xserve product lines).

b Includes MacBook, iBook, MacBook Air, MacBook Pro, and PowerBook product lines.

c Includes sales from iTunes Store, App Store, and iBookstore, as well as sales of iPod services and Apple-branded and third-party iPod accessories.

d Includes revenue recognized from iPhone sales, carrier agreements, services, and Apple-branded and third-party iPhone accessories.

e Includes revenue recognized from iPad sales, services, and Apple-branded and third-party iPad accessories.

f Includes sales of displays, wireless connectivity and networking solutions, and other hardware accessories.

g Includes sales of Apple-branded operating system and application software, third-party software, and Mac and Internet services.

Source: Apple Annual Reports 2010–2014.

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EXHIBIT 2C Unit Sales by Product, 2010–2014 (in millions, except sales-per-unit-sold data)

Unit Sales by Product	2010	2011	2012	2013	2014
Desktops ^a	4,627	4,669	4,656		
Portables ^b	9,035	12,066	13,502		
Total Mac unit sales	13,662	16,735	18,158	16,341	18,906
Net sales per Mac unit sold ^c	\$1,279	\$1,301	\$1,278	\$1,315	\$1,274
iPod units sold	50,312	46,620	35,165	26,379	14,377
Net sales per iPod unit sold ^c	\$164	\$174	\$159	\$167	\$159
iPad units sold	7,458	32,394	58,310	71,033	67,977
Net sales per iPad unit sold	\$665	\$628	\$590	\$450	\$445
iPhone units sold	39,989	72,293	125,046	150,257	169,219

a Includes iMac, Mac mini, and Mac Pro product lines (2008–2010 numbers also include Power Mac and Xserve product lines).

b Includes MacBook, iBook, MacBook Air, MacBook Pro, and PowerBook product lines.

c Derived by dividing total product-related net sales by total product-related unit sales.

Source: Apple Annual Reports 2010–2014.

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EXHIBIT 3 Apple Financial Data, 2010–2014 (in \$ millions, except EPS data)

Fiscal Year	2010	2011	2012	2013	2014
Cash and short-term investments	25,620	25,952	29,129	40,546	25,077
Receivables (total)	9,924	11,717	18,692	20,641	27,219
Inventories (total)	1,051	776	791	1,764	2,111
Property, plant, and equipment-total (net)	4,768	7,777	15,452	16,597	20,624
Depreciation, depletion, and amortization (accumulated)	2,466	3,991	6,435	11,922	18,391
Assets (total)	75,183	116,371	176,064	207,000	231,839
Accounts payable (trade)	12,015	14,632	21,175	22,367	30,196
Long-term debt	0	0	0	16,960	28,987
Liabilities (total)	27,392	39,756	57,854	83,451	102,292
Stockholders' equity (total)	47,791	76,615	118,210	123,549	111,547
Sales (net)	65,225	108,249	156,508	170,910	182,795
Cost of goods sold	38,609	62,609	84,641	99,849	104,312
Selling, general, and administrative exp.	7,299	10,028	13,421	15,305	18,304
Income taxes	4,527	8,283	14,030	13,118	13,973
Income before extraordinary items	14,013	25,922	41,733	37,037	39,510
Net income (loss)	14,013	25,922	41,733	37,037	39,510
Earnings per share (basic) excluding extraordinary items	15.41	28.05	44.64	40.03	6.49
Earnings per share (diluted) excluding extraordinary items	15.15	27.68	44.15	39.75	6.45

Source: Compustat and/or Apple Annual Reports 2010–2014.

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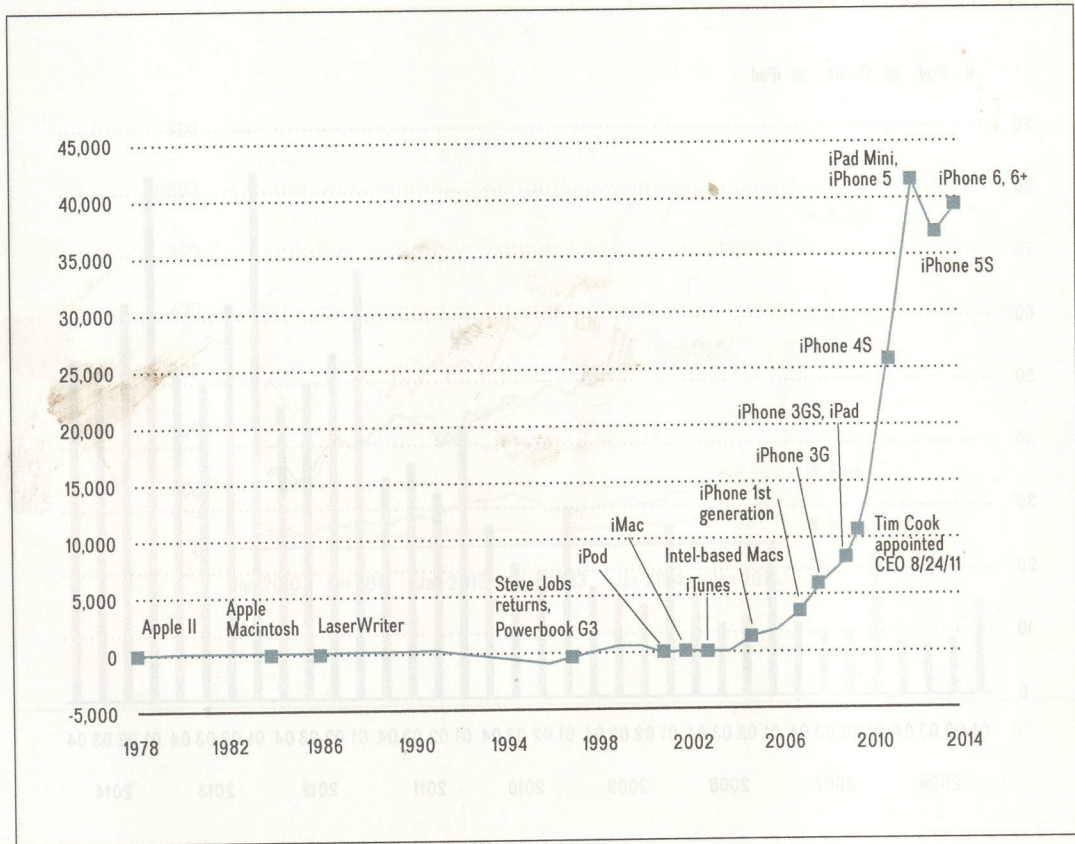
EXHIBIT 4 R&D Spending at Selected Tech Companies (in millions)

Company	R&D most recent four Quarters	Selected % of Revenue
Microsoft	\$11,381	13.1
Intel	\$11,537	20.6
IBM	\$5,437	5.85
Google	\$9,832	14.9
Amazon	\$9,275	10.4
Apple	\$6,000	3.28
Earnings per share (diluted) excluding extraordinary items	15.15	27.68

Source: Google Finance, Company Annual reports

Apple Inc.

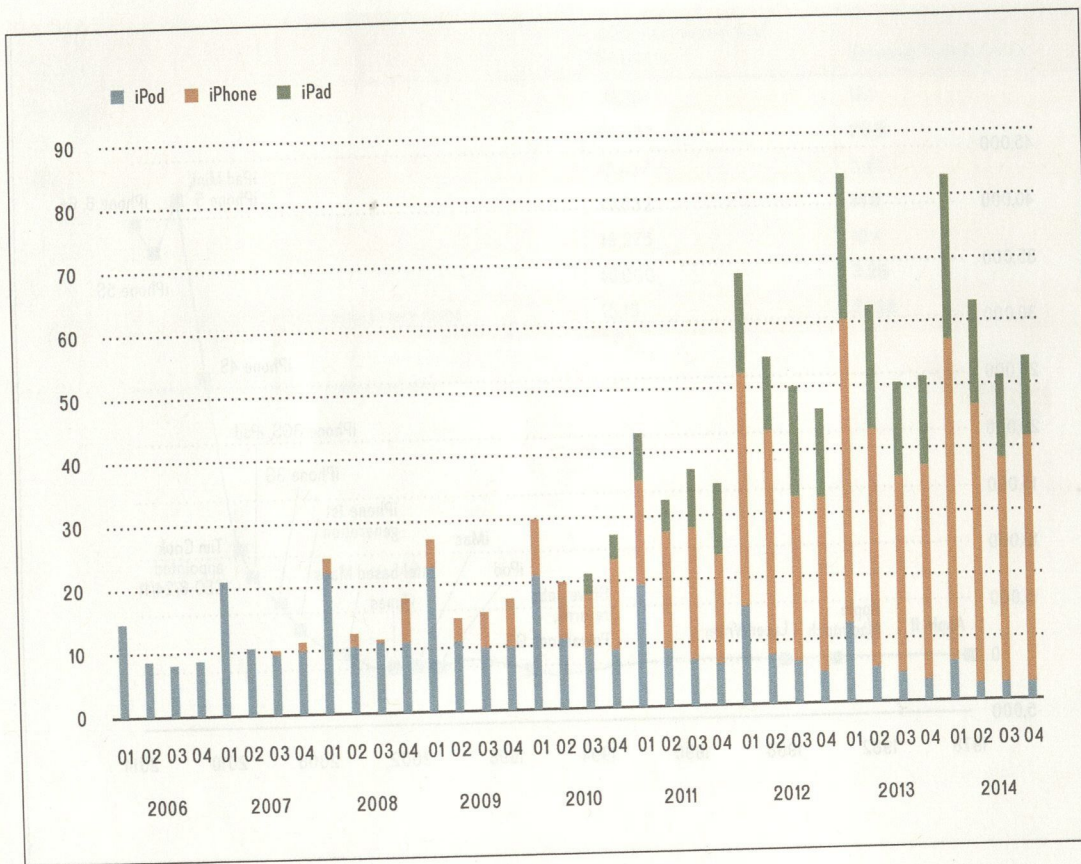
EXHIBIT 5A Apple's Net Income (\$ millions) and Key Events over Time, 1978-2014



Source: Depiction of publicly available data.

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EXHIBIT 5B Apple's Product Sales by Category, 2006-2014



Source: Author's depiction of publicly available data from Statista.com.

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EXHIBIT 6 Comparison of Selected Apple Competitors Stock Prices, January 2010–January 2015

