CASE 16

APPLE INC.: STILL TAKING A BITE OUT OF THE COMPETITION?*

On February 11, 2015, Apple Inc. made history by becoming the first U.S. publicly traded company to close above $700 billion in market value. This put Apple's value nearly double that of the next three largest companies in the S&P 500 Index,[1] and it firmly established expectations for future performance. Apple's market value had grown more than 50,600 percent since its initial public offering in December 1980.[2] To satisfy investors, consumers, and company enthusiasts, Apple would have to continue to deliver, and doing so might not be easy. As Apple had grown, the pace of innovation had slowed. There were still opportunities, but would Apple be the company to see them through to fruition?

The year 2015 was not the first time Apple had wowed investors. In September 2012 Apple stock had hit a price high of $702.10, at that time making Apple the most valuable company in the world, but the company had not been able to sustain that lofty valuation. September 2012 had also marked Tim Cook's first full year as CEO and the first full year since the death of Apple's visionary founder, Steve Jobs. Although most Apple watchers had mourned Steve Jobs's death on October 5, 2011, most also realized that Jobs's appointed successor, Tim Cook, came to the position as CEO with an impressive track record. Cook had continued to grow the company, and the 2012 year-end numbers showed continued financial success across almost all product lines. However, expectations were still very high, and rumors of a reduction in Asian supplier component orders for the iPhone for 2013 led investors to worry about a drop-off in demand for the company's flagship product. This worry led to a subsequent drop in Apple's stock price of nearly 24 percent.[3]

CEO Cook subsequently defused concerns over supply chain issues, but that didn't stop analysts and media watchers from wondering whether Apple had lost its luster.[4] This posed yet again the unavoidable question that had loomed large over the then 35-year-old Apple: What happens to a modern company whose innovations and inspirations are so closely tied to the vision of one leader when that leader's influence is no longer present?[5] By 2015, that question appeared to have been definitively answered: Apple, under CEO Cook, was not only the most valuable company in the world but was poised to grow even more (see Exhibits 1 and 2).

Apple, *Fortune* magazine's "world's most admired company" since 2008,[6] had distinguished itself by excelling over the years not only in product innovation but also in revenue and margins (since 2006 Apple had consistently reported gross margins of over 30 percent). Founded as a computer company in 1976 and known early on for its intuitive adaptation of the graphical user interface, or GUI (via the first mouse and the first on-screen "windows"),[7] Apple dropped the word *computer* from its corporate name in 2007. Apple Inc. in 2015 was known for having top-selling products not only in desktop (iMac) and notebook (MacBook) personal computers but also in portable digital music players (iPod), online music and "app" services (iTunes and App Store), mobile communication devices (iPhone), digital consumer entertainment (Apple TV), handheld devices able to download third-party applications, including games (iPod Touch via the App Store), tablet computers (iPad), and online services (iCloud), and the company was poised to enter and dominate the market of wearable technology (Apple Watch) and mobile payment systems (Apple Pay) (see Exhibit 3).

Although most of those innovations occurred after 1998, when Apple was under Steve Jobs's leadership, there was a 12-year period in which Jobs was not in charge. The company's ongoing stated strategy had been to leverage "its unique ability to design and develop its own operations systems, hardware, application software, and services to provide its customers new products and solutions with superior ease-of-use, seamless integration and innovative industrial design."[8] This strategy required not only product design and marketing expertise but also scrupulous attention to operational details. Given Apple's global growth in multiple product categories, and the associated complexity in strategic execution, would CEO Tim Cook be able to sustain the level of innovation the company had been known for? In the coming years, would Apple *still* be able to take a bite out of all competition?

Company Background

Founder Steve Jobs

Apple Computer was founded in Mountain View, California, on April 1, 1976, by Steve Jobs and Steve Wozniak. Jobs was the visionary and marketer, Wozniak was the technical genius, and A. C. "Mike" Markkula Jr., who had joined the team several months earlier, was the businessman. Jobs set the mission of empowering individuals, one person–one computer, and doing so with elegance of design and fierce attention to detail. In 1977 the first

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* This case was prepared by Professor Alan B. Eisner of Pace University and Associate Professor Pauline Assenza of Western Connecticut State University. This case was based solely on library research and was developed for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation.

EXHIBIT 1 Apple Sales

Go to library tab in Connect to access Case Financials.

	2014 ($ millions)	% Change	2013 ($ millions)	% Change	2012 ($ millions)
Product Net Sales					
iPhone	$ 101,991	12	$ 91,279	16	$ 78,692
iPad	30,283	(5)	31,980	3	30,945
Mac	24,079	12	21,483	(7)	23,221
iPod	2,286	(48)	4,411	(21)	5,615
iTunes, Software & Services*	18,063	13	16,051	25	12,890
Accessories†	6,093	7	5,706	11	5,145
Total net sales	**$182,795**	**7**	**$170,910**	**9**	**$156,508**
Cost of sales	112,258		106,606		87,846
Gross margin	**$ 70,537**		**$ 64,304**		**$ 68,662**
Gross margin %	38.6%		37.6%		43.9%
Research and development	$ 6,041		$ 4,475		$ 3,381
Percent of net sales	3%		3%		2%
Selling, general, and administrative	$ 11,993		$ 10,830		$ 10,040
Percent of net sales	7%		6%		6%
Total operating expenses	$ 18,034		$ 15,305		$ 13,421
Percent of net sales	10%		9%		9%
Region Net Sales					
Americas	$ 65,232	4	$ 62,739	9	$ 57,512
Europe	40,929	8	37,883	4	36,323
Greater China	29,846	17	25,417	13	22,533
Japan	14,982	11	13,462	27	10,571
Rest of Asia-Pacific	10,344	(7)	11,181	4	10,741
Retail	21,462	6	20,228	7	18,828

*Includes revenue from the iTunes Store, the App Store, the Mac App Store, the iBooks Store, AppleCare, licensing, and other services.

†Includes sales of Apple-branded and third-party accessories for the iPhone, iPad, Mac, and iPod.

Source: Apple 10-K SEC filing, 2014.

version of the Apple II became the first computer ordinary people could use right out of the box, and its instant success in the home market caused a computing revolution, essentially creating the personal computer industry. By 1980 Apple was the industry leader, and the company went public in December of that year.

In 1983 Wozniak left the firm, and Jobs hired John Sculley away from PepsiCo to take the role of CEO at Apple, citing the need for someone to spearhead marketing and operations while Jobs worked on technology. The result of Jobs's creative focus on personal computing was the Macintosh. Introduced in 1984 through the now-famous Super Bowl television ad based on George Orwell's novel *Nineteen Eighty-Four*,[9] the Macintosh was a breakthrough in terms of elegant design and ease of use. Its ability to handle large graphic files quickly made it a favorite with graphic designers, but its performance was slow and available compatible software was limited. That meant the

EXHIBIT 2
Apple First Quarter 2015 Sales

Go to library tab in Connect to access Case Financials.

	1st Quarter 2015 ($ millions)	1st Quarter 2014 ($ millions)	Percentage Change
Product Net Sales			
iPhone*	$ 51,182	$ 32,498	57
iPad*	8,985	11,468	(22)
Mac*	6,944	6,395	9
Services†	4,799	4,397	9
Other products‡	2,689	2,836	(5)
Total net sales	**$74,599**	**$57,594**	**30**
Region Net Sales			
Americas	$ 30,566	$ 24,789	23
Europe	17,214	14,335	20
Greater China	16,144	9,496	70
Japan	5,448	5,045	8
Rest of Asia-Pacific	5,227	3,929	33

*Includes deferrals and amortization of related nonsoftware services and software upgrade rights.

†Includes revenue from iTunes, AppleCare, Apple Pay, licensing, and other services.

‡Includes sales of iPod, Apple TV, Beats Electronics, and Apple-branded and third-party accessories.

Source: Apple 10-K SEC filing, 2015.

EXHIBIT 3 Apple Innovation Timeline

Date	Product	Events
1976	Apple I	Steve Jobs, Steve Wozniak, and Ronald Wayne found Apple Computer.
1977	Apple II	Apple logo first used.
1979	Apple II1	Apple employs 250 people; the first personal computer spreadsheet software, *VisiCalc*, is written by Dan Bricklin on an Apple II.
1980	Apple III	Apple goes public with 4.6 million shares; IBM personal computer announced.
1983	Lisa	John Sculley becomes CEO.
1984	Mac 128K, Apple IIc	Super Bowl ad introduces the Mac desktop computer.
1985		**Jobs resigns** and forms NeXT Software; Windows 1.01 released.
1986	Mac Plus	Jobs establishes Pixar.
1987	Mac II, Mac SE	Apple sues Microsoft over GUI.
1989	Mac Portable	Apple sued by Xerox over GUI.
1990	Mac LC	Apple listed on Tokyo Stock Exchange.
1991	PowerBook 100, System 7	System 7 operating-system upgrade released, the first Mac OS to support PowerPC-based computers.
1993	Newton Message Pad (one of the first PDAs)	Sculley resigns; Spindler becomes CEO; PowerBook sales reach 1 million units.

continued

EXHIBIT 3 *Continued*

Date	Product	Events
1996		Spindler is out; Amelio becomes CEO; Apple acquires NeXT Software, with Jobs as adviser.
1997		Amelio is out; **Jobs returns** as interim CEO; online retail Apple Store opened.
1998	iMac	iMac colorful design introduced, including USB interface; Newton scrapped.
1999	iMovie, Final Cut Pro (video editing software)	iBook (part of PowerBook line) becomes best-selling retail notebook in October; Apple has 11% share of notebook market.
2000	G4Cube	**Jobs becomes permanent CEO.**
2001	iPod, OS X	First retail store opens, in Virginia.
2002	iMac G4	Apple releases iLife software suite.
2003	iTunes	Apple reaches 25 million iTunes downloads.
2004	iMac G5	**Jobs undergoes successful surgery for pancreatic cancer.**
2005	iPod Nano, iPod Shuffle, Mac Mini	First video iPod released; video downloads available from iTunes.
2006	MacBook Pro	Apple computers use Intel's Core Duo CPU and can run Windows software; iWork software competes with Microsoft Office.
2007	iPhone, Apple TV, iPod Touch	Apple Computer changes name to Apple Inc.; Microsoft Vista released.
2008	iPhone 3G, MacBook Air, App Store	App Store launched for third-party applications for iPhone and iPod Touch and brings in $1million in one day.
2009	17-inch MacBook Pro, iLife, iWork '09	iTunes Plus provides DRM-free music, with variable pricing; **Jobs takes medical leave.**
2010	iPad, iPhone 4, Mac App Store	iPhone 4 provides FaceTime feature; iTunes reaches 10 billion songs sold.
2011	iPad2, iPhone 4S, iCloud	iPhone available on Verizon Wireless; **Jobs resigns as CEO, dies on October 5th. Tim Cook becomes CEO.**
2012	iBook Author, iPhone5, iPad Mini	iBook supports textbook creation on iPad. Apple becomes world's most valuable company (market cap). Mac Retina displays and skinny Macs introduced.
2013	Mega Mac, iPad Air	Workstation in a small aluminum cylinder.
2014	iPhone 6 Plus, Apple Watch, Apple Pay	Biggest iPhone yet; Apple Watch—computer on your wrist— introduced in 2014, actual delivery in 2015; Apple Pay mobile payment service; acquisition of Beats Electronic for streaming digital content.

Source: *http://en.wikipedia.org/wiki/Timeline_of_Apple_Inc._products.*

product as designed at the time was unable to significantly help Apple's failing bottom line. In addition, Jobs had given Bill Gates at Microsoft some Macintosh prototypes to use to develop software, and in 1985 Microsoft subsequently came out with the Windows operating system, a version of GUI for use on IBM PCs.

Steve Jobs's famous volatility led to his resignation from Apple in 1985. Jobs then founded NeXT Computer. The NeXT Cube computer proved too costly for the business to become commercially profitable, but its technological contributions could not be ignored. In 1997 Apple CEO Gilbert Amelio bought out NeXT, hoping to use its Rhapsody, a version of the NeXTStep operating system, to jump-start the Mac OS development, and Jobs was brought back as a part-time adviser.

Under CEOs Sculley, Spindler, and Amelio

John Sculley tried to take advantage of Apple's unique capabilities. Because of this, Macintosh computers became easy to use, with seamless integration (the original plug-and-play) and reliable performance. This premium performance meant Apple could charge a premium price. However, with the price of IBM compatibles dropping and Apple's costs, especially R&D, way above industry averages (in 1990

Apple spent 9 percent of sales on R&D, compared to 5 percent at Compaq and 1 percent at many manufacturers of IBM clones),[10] this was not a sustainable scenario.

Sculley's innovative efforts were not enough to substantially improve Apple's bottom line, and he was replaced as CEO in 1993 by company president Michael Spindler. Spindler continued the focus on innovation, producing the PowerMac, based on the PowerPC microprocessor, in 1994. Even though this combination produced a significant price-performance edge over both previous Macs and Intel-based machines, the IBM clones continued to undercut Apple's prices. Spindler's response was to allow other companies to manufacture Mac clones, a strategy that ultimately led to clones stealing 20 percent of Macintosh unit sales.

Gilbert Amelio, an Apple director and former semiconductor turnaround expert, was asked to reverse the company's financial direction. Amelio intended to reposition Apple as a premium brand, but his extensive reorganizations and cost-cutting strategies couldn't prevent Apple's stock price from slipping to a new low. However, Amelio's decision to stop work on a brand-new operating system and jump-start development by using NeXTStep brought Steve Jobs back to Apple in 1997.

Steve Jobs's Return

One of Jobs's first strategies on his return was to strengthen Apple's relationships with third-party software developers, including Microsoft. In 1997 Jobs announced an alliance with Microsoft that would allow for the creation of a Mac version of the popular Microsoft Office software. He also made a concerted effort to woo other developers, such as Adobe, to continue to produce Mac-compatible programs.

In late October 2001, Apple released its first major noncomputer product, the iPod. This device was an MP3 music player that packed up to 1,000 CD-quality songs into an ultraportable, 6.5-ounce design: "With iPod, Apple has invented a whole new category of digital music player that lets you put your entire music collection in your pocket and listen to it wherever you go," said Steve Jobs. "With iPod, listening to music will never be the same again."[11] This prediction became even truer in 2002, when Apple introduced an iPod that would download from Windows—its first product that didn't require a Macintosh computer and thus opened up the Apple "magic" to everyone. In 2003 all iPod products were sold with a Windows version of iTunes, making it even easier to use the device regardless of computer platform.

In April 2003, Apple opened the online iTunes Music Store to everyone. This software, downloadable on any computer platform, sold individual songs through the iTunes application for 99 cents each. When announced, the iTunes Music Store already had the backing of five major record labels and a catalog of 200,000 songs. Later that year, the iTunes Music Store was selling roughly 500,000 songs a day. In 2003 the iPod was the only portable digital player that could play music purchased from iTunes, and this intended exclusivity helped both products become dominant.

After 30 years of carving a niche for itself as the premier provider of technology solutions for graphic artists, web designers, and educators, Apple appeared to be reinventing itself as a digital entertainment company, moving beyond the personal computer industry. The announcement in 2007 of the iPhone, a product incorporating a wireless phone, a music and video player, and a mobile Internet browsing device, meant Apple was also competing in the cell phone/smartphone industry.

Also introduced in 2007, the iPod Touch incorporated Wi-Fi connectivity, allowing users to purchase and download music directly from iTunes without a computer. Then, in 2008, Apple opened the App Store. Users could now purchase applications written by third-party developers specifically for the iPhone and iPod Touch. These applications included games, prompting analysts to wonder whether Apple was becoming a competitor in the gaming market.

In 2010 Apple launched the large-screen touch-based tablet called the iPad and sold over 2 million of these devices in the first two months.[12] That same year, Apple's stock value increased to the extent that the company's market cap exceeded Microsoft's, making it the biggest tech company in the world.[13] In 2011 Steve Jobs made his last product launch appearance to introduce iCloud, an online storage and syncing service. On October 4, 2011, Apple announced the iPhone 4S, which included "Siri," the "intelligent software assistant." The next day, on October 5, came the announcement that Steve Jobs had died.

Apple continued to innovate, however, and on September 21, 2012, Apple had its biggest iPhone launch ever, with the iPhone 5. Over 2 million preorders for this larger and more powerful phone pushed the delivery date back to late October.[14] Later in the fall, Apple released the iPad Mini with a smaller screen. On September 19, 2012, Apple stock reached $702.10, its highest level to date, which made Apple the most valuable company in the world. The year 2013 saw the iPhone5C and the high-range iPhone5S, which introduced the Touch ID fingerprint recognition system. The iPhone 6 and 6 Plus, with larger displays, faster processors, and support for mobile payments, were released in September 2014 and allowed Apple to extend its already-strong market position with a record-setting sales performance over the 2014 holiday season.[15] The prototype of the Apple Watch was unveiled in 2014, with production scheduled to begin in 2015. Also introduced in 2014 was Apple Pay, a mobile payment system meant to augment all Apple mobile products. February 2015 saw Apple reach the highest market cap of any U.S.-traded company, indicating investor support and confidence in the company's innovative output.

Apple had become a diversified digital entertainment corporation. All the way back in 2005, analysts had believed Apple had "changed the rules of the game for

three industries—PCs, consumer electronics, and music . . . and appears to have nothing to fear from major rivals."[16] On top of steady sales increases on its computers, the iPod, and iTunes, the added categories of iPhone and iPad had shown substantial growth. Apple had taken bites out of the competition on all fronts (see Exhibit 4). However, by 2013, Samsung had outperformed Apple in worldwide smartphone sales,[17] and Google's Android had captured the largest market share of cell phone operating systems. At the same time, both the Amazon Kindle Fire HD tablet and Microsoft's Surface tablet were nipping at the iPad's heels. The year 2015 was marked by competition in the wearable-tech space, and some were wondering if Apple had gotten too big to be nimble. Could Apple continue to grow and, if so, in what categories?

Apple's Operations

Maintaining a competitive edge required more than innovative product design. Operational execution was also important. For instance, while trying to market its increasingly diverse product line, Apple believed that its own retail stores could serve customers better than could third-party retailers. By the end of 2014, Apple had 437 stores open, including 178 international locations, with average store revenue of about $50.6 million, and had received trademark protection for its retail stores' "distinctive design and layout."[18]

In further operational matters, regarding a head-to-head competition against Dell in the computer market, for instance, while Dell's perceived early dominance might have been partly the result of its efficient supply chain management, Apple had outperformed Dell in inventory and other metrics since 2001.[19] To solidify its own supply chain, Apple entered into multiyear agreements with suppliers of key components. In addition, Apple had historically had the best margins, partly because of its simpler product line, leading to lower manufacturing costs.[20] Also, Apple had been outsourcing manufacturing and final assembly to its Asian partners, paying close attention to scheduling and quality issues.

Outsourcing to Asian manufacturers was not without its problems, however. In 2012, headlines worldwide accompanied the exposure of China's Foxconn manufacturing facility for labor abuses that led to worker suicide threats. Apple, as well as most other technology companies, used Foxconn facilities to assemble products, including the iPad and iPhone. After the story broke, Apple CEO Tim Cook visited the Foxconn plant and reviewed an audit of working conditions that found violations in wages, overtime, and environmental standards. Apple stated that it remained "committed to the highest standards of social responsibility across our worldwide supply chain,"[21] and Cook announced that Apple might be bringing some of the production of Mac computers back to the U.S., starting in 2013. Apple could do this without affecting its profitability, because of automation cost savings. As one supply chain expert said, "Apple's product line is highly standardized, with a very small number of products and very few configurations, and that makes it much easier to do automation."[22]

Supply chain, product design, and manufacturing efficiencies were not the only measures of potential competitive superiority. Apple had also historically paid attention to research and development, increasing its R&D investment year after year. In the first quarter of 2015, Apple spent $1.9 billion on R&D, an increase of 42 percent

EXHIBIT 4 Apple's Product Lines and Major Competitors

Product Category	Apple Products	Major Competitors
Computers	iMac, Mac Pro, Mac Mini, MacBook, MacBook Pro, MacBook Air	HP, Dell, Toshiba, Lenovo in the laptop; Acer and ASUS in the netbook form factor
Portable music/media players	iPod Shuffle, iPod Nano, iPod Classic, iPod Touch	Samsung, SanDisk, Archos, Microsoft Zune
Smartphones	iPhone	Nokia, RIM, Samsung, ZTE, LG, Google/Motorola, HTC
Music/media downloads	iTunes, the App Store	Amazon, Google Android apps
Handheld gaming devices	iPod Touch, iPhone	Nintendo, Sony
Software*	Safari web browser, QuickTime, iCloud	Microsoft IE, Mozilla Firefox, Google Chrome, Windows Media Player, RealNetworks, Dropbox, Google Drive
Home theater downloads	Apple TV	Roku, possibly Tivo
Tablet computers	iPad	Samsung Galaxy Tab, Amazon Kindle Fire, Google Nexus, Windows Surface
Wearable technology	Apple Watch	Samsung Gear, Pebble, Sony SmartWatch, Motorola Moto 360

*Includes only the software that is sold separately to use on either Windows or Mac computers.

from the previous year. Among its current rivals, Apple's R&D investment had previously been beaten only by Microsoft (number one), Google, Hewlett-Packard, and Amazon.[23]

As one of Steve Jobs's legacies, Apple had traditionally kept the specifics of its research and development a closely guarded secret and fiercely protected its innovative patents. A well-publicized series of lawsuits in 2012 highlighted rifts between Apple and Samsung, both a rival and a supplier. Samsung smartphones had captured more market share than Apple's iPhones in the beginning of 2012, and Apple argued that Samsung had succeeded with both its phones and tablets only by copying Apple's designs. Samsung replied by claiming that Apple had infringed on Samsung's patents.[24] U.S. intellectual property courts found in favor of Apple, but Japanese courts found in favor of Samsung. The ongoing battle meant Apple needed to look for other suppliers of chips and displays. In November 2014, supply chain watchers pointed out that Apple still had a major challenge ahead finding reliable suppliers for increasingly scarce components and that the continued reliance on Foxconn as the sole manufacturer of the iPhone 6 Plus meant that any disruption there could have major consequences for delivery.[25]

Status of Apple's Business Units in 2015

The Apple Computer Business

In the computer market, Apple had always refused to compete on price, relying instead on its products' reliability, design elegance, ease of use, and integrated features to win customers. From the beginning, some analysts had believed Apple had the opportunity to steal PC market share as long as its system was compatible, no longer proprietary, and offered upgrades at a reasonable cost.[26] This opportunity for increased market share was realized when Apple began using Intel processors in the iMac desktop and the MacBook portables, which allowed them to run Microsoft Office and other business software.

Apple's worldwide Mac computer sales during the first quarter of 2015 increased 9 percent over the same quarter in the previous year. Although there had been fears that sales of desktop computers, especially, would slow worldwide as the tablet and smartphone markets grew, the introduction of the MacBook Air allowed Apple to compete favorably even in the face of overall contraction. Apple computers had been able to gain market share for 33 of the 34 quarters since 2007. Sales of Apple computers worldwide during the third quarter of 2014 did see an increase over the previous year, consistently outgrowing the market and allowing Apple to take over the number-five slot from ASUS (Exhibit 5). According to market analysis done by IDC, the Mac's domestic market share grew from 12.4 to 13 percent, putting the Mac in third place overall in IDC's survey of PC vendor units shipped in the third quarter of 2014.[27] This was up substantially from 2010, when Apple had only 7.4 percent of the U.S. market.[28]

Personal Digital Entertainment Devices: iPod

Although many analysts at the time felt that the MP3 player market was oversaturated, Apple introduced the iPod Touch in 2007, intending it to be "an iPhone without the phone," a portable media player and Wi-Fi Internet device without the AT&T phone bill.[29] The iPod Touch borrowed most of its features from the iPhone, including the finger-touch interface, but it remained mainly an iPod, with a larger viewing area for videos. Apple released the fifth-generation iPod Touch in September 2012, with upgraded features like support for recording 1080p video and panoramic still photos and support for Apple's "Siri." A new version, the sixth generation of this product, debuted in 2015.

Apple reported selling 6 million of the iPod MP3 players over the 2013 holiday season, down from over 12 million iPod units during the previous season, and in the 2014 year-end report iPod sales were not singled out as a separate

EXHIBIT 5 Worldwide PC Market Share, Third Quarter 2014 (units in thousands)

Company	3Q14 Shipments	3Q14 Market Share (%)	3Q13 Shipments	3Q13 Market Share (%)	3Q14–3Q13 Growth (%)
Lenovo	15,707	20.0	14,130	17.7	11.2
HP	14,729	18.8	14,016	17.5	5.1
Dell	10,442	13.3	9,517	11.9	9.7
Acer Group	6,632	8.4	5,952	7.4	11.4
Apple	4,982	6.3	4,577	5.7	8.9
Others	26,026	33.1	31,714	39.7	−17.9
Total	78,519	100.0	79,905	100.0	− 1.7

Source: IDC, Worldwide Quarterly PC Tracker, October 8, 2014. *www.idc.com/getdoc.jsp?containerId=prUS25187214.*

category. As with desktop computer sales, the MP3 player market was contracting overall as smartphone and tablet devices took over many music-related tasks. Even with the decline in iPod sales, Apple was still leading well over its rivals. Traditionally, the iPod had had a 70 percent share of the MP3 player market in the United States, and it was the top-selling player in the world.[30] Microsoft's entry into this space, the Zune, was discontinued in October 2011. Its market share never exceeded 1 percent.[31]

Mobile Communication Devices: iPhone

In 2007 further competition for the iPod had come from the blurring of lines between digital music players and other consumer electronic devices. While others may have seen the computer as central to the future of digital music, telecom companies worked to make the mobile phone a center of the digital world. Apple's entry, the iPhone, combined an Internet-enabled smartphone and video iPod. The iPhone allowed users to access all iPod content and play music and video content purchased from iTunes. More recent smartphone models increased the quality of the photo and video components to make even the digital camera or camcorder appear obsolete. The smartphone market in 2007 had been estimated at 10 percent of all mobile phone sales, or 100 million devices a year. Steve Jobs had said he "would like to see the iPhone represent 1 percent of all mobile phone sales by the end of 2008."[32] This proved to be a conservative estimate, and by 2015 Apple had achieved almost 20 percent, in a close tie with Samsung (see Exhibit 6).

By 2015, smartphones had become the device of choice for most manufacturers. Smartphones were also often the electronic data consumers' device of choice, with multiple features, including cameras and the ability to surf the Internet while being held in the hand, rather than taking up the space of a tablet or ultra-thin computer. However, the smartphone market was increasingly turning into a battle between mobile operating systems (OSs).

Apple's iPhone, running on iOS, had had considerable competition from Samsung's Galaxy smartphones. This was partly due to Samsung's use of Google's Android operating system. Historical worldwide leader Nokia had stumbled badly with its outdated Symbian operating system and was trying to regain a foothold by partnering with Microsoft, using the Windows Phone operating system. Although Research In Motion (RIM) still had some long-term BlackBerry fans, RIM had had problems updating its BlackBerry line of phones. The market share by operating-system map was now worth watching, with Android devices expected to continue to capture the majority of market share through 2016 (see Exhibit 7).[33]

In recent years it appeared that some of the "cool" factor had disappeared from the iPhone. In Asian markets,

EXHIBIT 6 Worldwide Market Share—Cell Phones, Fourth Quarter 2014

Manufacturer	Market Share, 4Q 2014	Market Share, 4Q 2013
Samsung	20.0%	28.8%
Apple	19.9	17.4
Lenovo + Motorola	6.6	4.8
Huawei	6.3	5.7
Xiaomi	4.4	2.0
Others	42.9	41.3

Source: IDC, Worldwide Quarterly Mobile Phone Tracker, January 29, 2015, *www.idc.com/getdoc.jsp?containerId=prUS25407215.*

EXHIBIT 7 Smartphone Operating-System Market Share, Third Quarter 2014

Smartphone OS	Market Share, Q3 2014	Market Share, Q3 2013
Google Android	84.4%	81.2%
Apple iOS	11.7	12.8
Microsoft Windows Phone	2.9	3.6
RIM BlackBerry OS	0.5	1.7
Others	0.6	0.6

Source: IDC, Smartphone OS Market Share, Q3 2014, *www.idc.com/prodserv/smartphone-os-market-share.jsp.*

cially, Apple's shares of mobile devices had fallen sharply, losing considerable ground to Samsung and HTC smartphones. Younger users, the 20-something college students and recent graduates, were looking for the next new thing, and that was increasingly an Android-driven device. A social media expert in Singapore noted, "Apple is still viewed as a prestigious brand, but there are just so many other cool smartphones out there now that the competition is just much stiffer." This was a problem, because, starting in 2012, this Asian market was also where consumers were adopting very quickly.[34] In addition, CEO Tim Cook's visit to China in the fall of 2012, presumably to woo China Mobile's chief executive into subsidizing the iPhone, hadn't had the expected result. China Mobile's wireless network, the world's largest, wouldn't be adding the iPhone without better terms from Apple. Instead, it offered its subscribers the Nokia Lumia Windows 8 phone.[35] Given all these challenges, could Apple continue to ride the success of the iPhone to greater profits? Many were skeptical.

However, during 2014, Apple's new iPhone with its larger screen size, in the 6 and 6 Plus models, was able to capture the consumer's attention, allowing Apple to close the gap with Samsung. This was especially notable in China, where Apple's refusal to drop the price allowed it to achieve almost a luxury status with the growing middle class in that country. Sales in China had grown substantially—achieving $38 billion in 2014, up from only $1 billion in 2009.[36] Elsewhere in 2014, iPhone sales had grown by 44 percent in the United States and were up more than 96 percent in Brazil, Russia, India and China, but by 2015 the overall smartphone market was slowing down as mature markets were increasingly dependent on replacement purchases and emerging markets appeared more interested in low-cost devices.[37]

However, in 2015, Apple was poised to capture market share in two distinct areas: among those consumers who had previously been "inhibited" by the smaller screen size of older phones and therefore were unwilling to go completely mobile until the iPhone 6/6 Plus appeared; and within the enterprise market, as corporate users began to appreciate Apple's interactivity and the robustness of the iOS. Also, although a "staggering" 1.06 billion Android-based smartphones were shipped in 2014, while the iOS market share declined slightly (until the fourth quarter, when the iPhone 6 began shipping), according to data from industry watchers the difference in operating profit per phone was equally staggering: Android OS profit per phone was $2.26, while iOS phones yielded $97.50. In the Android/iOS war, "strangling" profits in the quest for increased market share might not have been the best long-term strategy. Apple had the resources to grow and win.[38]

Tablet Computer: iPad

In April 2010 Apple released the iPad, a tablet computer, as a platform for audiovisual media, including books, periodicals, movies, music, games, and web content. More than 300,000 iPads were scooped up by eager tech consumers during the device's first day on store shelves. Weighing only 1.5 pounds, this lightweight, portable touch-screen device was seen as a gigantic iPod Touch.[39]

Considering that previous tablet computers had failed to catch on in the mass market, Apple made a bold move by introducing the iPad. Upon its release, some users criticized the iPad for a lack of features, such as a physical keyboard, a webcam, USB ports, and Flash support, and for its inability to multitask, share files, and print. However, features like the sleek design, touch screen, multiple apps, and fast and easy-to-navigate software made the iPad popular in business, education, and the entertainment industry. The iPad was selected by *Time* magazine as one of the "50 Best Inventions of the Year 2010."[40]

Until September 2010, Apple iPads accounted for 95 percent of tablet computer sales, according to research firm Strategy Analytics.[41] But by the end of 2012, that figure had fallen to 78.9 percent. The loss of share was due to the arrival of new tablet devices, such as Samsung's Galaxy, based on Google's open-source Android system. Other platforms and devices had also begun to appear, including Google's Nexus, Amazon's Kindle Fire HD, and Microsoft's Windows 8 Surface tablet.[42] By 2015, devices running the Android operating system had achieved a market share of 66 percent of new tablet shipments.[43]

In October 2014 Apple released the iPad Air 2, the fifth-generation iPad. With similarities to the iPad Mini, the Air was thinner, with a smaller screen bezel, yet still used the same 9.7-inch Retina Display as the previous iPad model. In addition to the physical redesign, the Air had more powerful cameras and slightly increased processing speed, but it was otherwise only a slight improvement over previous iPad versions.[44] Going into 2015 there were signs that the iPad models' sales, as well as the entire tablet industry, were "going downhill," partly due to the "jumbo" phones coming from the likes of Samsung (and Apple) and the low-cost Google-based Chromebook laptops (Exhibit 8).[45]

In this category, Microsoft's Surface Pro 3 was the only tablet that appeared to be growing: 24 percent increase in sales, year over year, during the fourth quarter of 2014. This indicated that a performance-oriented tablet appealed to users.[46] Apple needed to consider an upgrade.

The Software Market

Although Apple had always created innovative hardware, software development was also an important goal. Software had increasingly become Apple's core strength, especially in its computers, due to its reliability and resistance to virus infections and resulting crashes.[47] The premier piece of Apple software was the operating system. The iOS allowed Apple to develop software applications such as Final Cut Pro, a video-editing program for professionals' digital camcorders, and the simplified version for regular consumers, called iMovie. The iLife software package provided five

Market Share, Q4 2014	Market Share, Q4 2013	Year-Over-Year Growth
28.1%	33.1%	−17.8%
14.5	17.2	−18.4
4.8	4.3	9.1
4.0	5.1	−24.9
2.3	7.4	−69.9
46.2	32.8	36.2

e: IDC, Worldwide Quarterly Tablet Tracker, February 2, 2015, *http://seekingalpha.com/article/2944766-apple-ipad-sales-may-surprise-in-fy-2016.*

integrated applications, allowing the computer to become a home studio: iMovie; iDVD, for recording photos, movies, and music onto DVDs; iPhoto, for touching up digital photos; GarageBand, for making and mixing personally created music; and the iTunes digital music jukebox. Also available was iWork, containing a PowerPoint-type program called Keynote and a word-processor/page-layout program called Pages. Both iLife and iWork underwent major upgrades in 2009, further increasing their respective abilities to compete with Microsoft applications.

Apple's web browser, Safari, was upgraded in 2009 to compete with Windows Internet Explorer, Mozilla Firefox, and the new entrant, Chrome from Google. Apple announced, "Safari 4 is the world's fastest and most innovative browser,"[48] but analysts were quick to point out that Google's Chrome, which debuted six months earlier, was perhaps the first to take the browser interface in a new direction. One commentator called Chrome "a wake-up call for the Safari UI guys."[49] Browser market share data at the end of 2014 showed Chrome in the top spot, with a 45 percent global market share. Internet Explorer held a slim second place with 20 percent, and Firefox was a close third with 18 percent. Safari had a 10 percent share.[50]

In 2011 iCloud was introduced during one of Steve Jobs's last public appearances. The web-based storage service initially struggled to get traction, but in 2014 it was upgraded to iCloud Drive, allowing users to interoperate with Windows and connect all iOS devices. As an alternative to Google Drive and Dropbox, iCloud Drive gave Apple an intro into the enterprise/corporate user space, a market CEO Tim Cook had begun to target.[51]

In other software development areas, Apple had not been that successful. In 2012 Apple stumbled badly with its Maps software. Released in iOS6, Apple Maps was meant to replace Google Maps on the iPhone but instead produced distorted images and gave very bad directions. CEO Tim Cook had to apologize that Apple had fallen short of its commitment to making "world-class products," and he suggested customers go back to using its competitor's mapping software.[52]

iTunes

Arguably, Apple's most innovative software product v iTunes, a free downloadable software program for consum that ran on either Mac or Windows operating systems. It w bundled with all Mac computers and iPods and connect with the iTunes Music Store, enabling purchases of digi music and movie files that could be downloaded and play by iPods, iPads, and the iPhone and, on PCs, by iTunes.

Although the volume was there, iTunes had not nece sarily been a profitable venture. Traditionally, out of t 99 cents Apple charged for a song, about 65 cents we to the music label; 25 cents went for distribution cos including credit card charges, servers, and bandwidth; a the balance went to marketing, promotion, and the amc tized cost of developing the iTunes software.[53] Howev even if not wildly profitable, iTunes was still consider a media giant, especially with over 43 million DRM-fr songs available in its database as of 2015.[54]

Several competitors had tried to compete with tl iTunes service. RealNetworks' Rhapsody subscriptic service, Yahoo MusicMatch, and AOL music downloa had all competed for the remaining market share, using tl potentially buggy Microsoft Windows Media format, ar all subsequently failed.[55] Even though one commentat said in 2004 that "ultimately someone will build a piece software that matches iTunes,"[56] as of 2015 the only ser ous competition was from Amazon.

At the start of 2013, iTunes accounted for over 60 pe cent of all digital music sales. In second place was Am zon's MP3 store, with 16 percent market share. Googl Play, eMusic, Zune Music Pass, Rhapsody, and a fe others each captured 5 percent or less of the remainin sales. Growth, however, was occurring in the streamin service market, especially with the rising popularity c online radio and Internet streaming providers Pandora an Spotify, and by 2015 music sales on iTunes had fallen b over 14 percent worldwide. This trend helped explain wh Apple acquired the monthly subscription streaming servic Beats Music in 2014. The $3 billion acquisition include headphone maker Beats Electronics.[57]

The App Store

In March 2008, Apple announced that it was releasing the iPhone software development kit (SDK), allowing developers to create applications for the iPhone and iPod Touch and sell these third-party applications via the Apple App Store. The App Store was made available on iTunes, and it was directly available from the iPhone, iPad, and iPod Touch products. This opened the window for another group of Apple customers, the application developers, to collaborate with Apple. Developers could purchase the iPhone Developer Program from Apple for $99, create either free or commercial applications for the iPhone and iPod Touch, and then submit the applications to be sold in the App Store. Developers received 70 percent of the download fee that iPhone or iPod Touch customers paid to the App Store, and Apple got 30 percent of the revenue.

As of January 2015, over 75 billion apps had been downloaded from Apple's App Store, but Google Play, the app store for Android users, was gaining ground, indicating that Google might be attracting more top-tier developers and quality titles to its marketplace. However, downloads for both platforms slowed in 2014, causing market watchers to wonder if a plateau was coming. This might mean diminishing returns and a less prosperous business model for all concerned.[58]

Apple Pay

Introduced in late 2014, Apple Pay allowed iPhone 6 and 6 Plus users in the U.S. to make secure payments for goods and services using their phones. With over 1 million credit and debit card activations within the first 72 hours of its release, Apple Pay was intended to replace the user's wallet and, according to CEO Tim Cook, would "forever change the way all of us buy things," primarily because the process was more secure than a traditional card-based transaction. As of 2015, major retailers such as Macy's, Walgreens, McDonald's, Whole Foods, and Disney had all agreed to accept Apple Pay. Apple reportedly received 0.15 percent of each purchase price, making the service a potentially lucrative venture. Major competition was coming from Google Wallet, especially given Google's 2015 acquisition of technology from Softcard.[59] Google Wallet had also seen an increase in usage as the Apple Pay system was launched, indicating that 2015 might become an interesting year for alternative types of transactions to occur.[60]

New Products: Apple Watch and Apple Car

Apple Watch was the first all-new product since the iPad, and therefore CEO Tim Cook's most ambitious gamble. Once again, Apple was not the first company to enter the wearable-tech space; it was following the lead of Samsung, Sony, and Motorola and competing against fitness trackers produced by Nike, FitBit, and others. However, Apple's preorders for the launch in 2015 indicated demand would run to a combined 5 to 6 million units of the three watch models.[61] This product category was a bit of a departure for Apple as the company positioned the Watch as a personalized device, with the market segmented between mass market and luxury. The features on all three models were the same, but status was indicated by differences in the precious metals and craftsmanship of the cases, therefore justifying the price range from $349 for the sports model to $20,000 for the Apple Watch Edition.[62]

Rumors surfaced in 2015 that Apple had acquired resources, primarily engineers and related technology, that would enable it to develop an automobile, ready for market by 2020. Speculation was that Apple would not do the actual assembly but, as with its other products, would use its sophisticated supply chain expertise to outsource manufacturing, focusing its considerable innovation skills on the design and sale of a product that incorporated Apple technology in multiple configurations. As one observer said, "In this strategy, Apple's current products would act as building blocks and core components of future, more important products. The ecosystem would become *much* larger," therefore enabling Apple to continue to grow and dominate the innovation landscape.[63]

The Future of Apple

In 2012, during Tim Cook's first year as CEO, he had to deal with a flat economy, supplier troubles, increasing competition, investor panic, and possibly unrealistic expectations in the wake of Steve Jobs's demise, and yet the company still grew by 60 percent. By 2015, Apple's value had more than doubled. Although many observers feared that Apple would have to yield to the "law of large numbers"—the concept that companies which grow rapidly cannot maintain that growth pace over time—CEO Cook rejected this view as being "dogma" and believed that Apple still had major opportunities ahead.[64] And many of those opportunities existed because of Steve Jobs's and now Tim Cook's single-minded emphasis on pursuing only those projects where Apple could be the best at making a "significant, lasting difference" (and never "cheapening" the product offering), where Apple could use this philosophy and vision to attract the best and brightest key personnel, and where it could leverage its considerable skill in managing its distribution and supply chain while simultaneously delivering a complete customer experience.[65]

As Cook explained, in each of the markets Apple had entered, it was not the first to market. It was not the first to produce MP3 players, smartphones, or tablets, and it was not the first with wearable technology or a mobile pay system. Apple's strategy had always been to carefully analyze each market and then design products that were more attractive to users than any competitor's products could be.[66] Under Cook, Apple had transitioned itself "from being a hypergrowth company to being a premium, branded consumer company."[67] Apple was becoming "a wildly profitable company that continues to be a major (or dominant) player in various product categories,"[68] and