

## TEACHING NOTE

# Apple Inc.

## Case Overview

The case is set in the spring of 2017 and it begins with a vignette of CEO Tim Cook contemplating current issues that relate to where future revenue growth will come from for Apple. Tim Cook has successfully led Apple following Steve Jobs' death and made Apple the first company to be worth more than \$800 billion, but no major new product has been introduced since 2010.

The next section of the case provides a brief history of Apple Inc. (AAPL). Apple Computer Inc. was founded by Steve Jobs and Steve Wozniak after Steve Jobs sold his Volkswagen to build computers in his garage. By 1980, Apple had released three improved versions of personal computers and launched a successful IPO that made Steve Jobs and Wozniak millionaires. In 1981, IBM entered the personal-computer industry, and by 1982 its open architecture and partnership with Microsoft (software) and Intel (processor) were becoming the industry standard. In 1984, Apple responded with the Macintosh computer, whose introduction to the world came as part of a memorable Super Bowl commercial (see additional resources). The graphic design of the Macintosh shaped later computer interfaces, as Microsoft's imitated it.

As part of its growth, Apple brought in professional managers, and in 1983 John Sculley, a marketing guru, was hired. John Sculley and Steve Jobs initially worked well together, but the two began to diverge; a power struggle erupted over the future of Apple, resulting in Steve Jobs' public firing by Apple's board of directors in favor of making John Sculley CEO. The leadership of John Sculley at Apple represented a time of decline at the company as competition increased and Apple lost focus. This set the stage for Steve Jobs' return.

By 1996, Apple revenues had fallen, and the company announced layoffs of 30 percent of its work force. A new CEO (Gilbert Amelio) bought NeXT software that Steve Jobs founded after leaving Apple, and brought in Steve Jobs as a part-time advisor. (Note: While away from Apple, Steve Jobs also became involved with Pixar animation in what has to be among the best investments, as Disney bought Pixar for \$7.4 billion in 2006.) In 1997, Apple experienced its worst performance ever; Steve Jobs returned as CEO and orchestrated one of the greatest corporate turnarounds in history.

Steve Jobs began by focusing the company and discontinuing several products, ending relationships with smaller stores, and outsourcing production. He also switched the platform of Apple's operating system to UNIX, which enabled Apple to adopt Intel processors and run both the Apple and Microsoft

operating systems. This coincided with an alliance with Microsoft that involved a \$150 million investment and development of Microsoft Office for the Macintosh.

Another change Steve Jobs instituted was a renewed focus on design and the appointment of Jonathan Ive as Apple's chief designer. This coincided with a renewed focus on Apple's brand identity and the launch of Apple's "Think Different" advertising campaign (see Additional Resources). The campaign did not feature any Apple products, and the case includes an interview that suggests Steve Jobs was waiting "for the next big thing." Additionally, the focus on outsourcing coincided with Tim Cook being hired in 1998 as senior vice president of worldwide operations. By 2007, Tim Cook's role at Apple increased, and he became Chief Operating Officer. The transition from Steve Jobs to Tim Cook and some of the changes made are then discussed.

From this background, the case transitions to a discussion of Apple's culture under Steve Jobs that emphasized attracting employees who wanted to "change the world." Apple developed a rebel culture, which was symbolized by flying a pirate flag with a rainbow-colored Apple eye patch over its Macintosh building. This culture also helped to differentiate Apple in the marketplace, and it developed an almost cult-like following among customers who bought Apple products. Under Steve Jobs' leadership, Apple began to deliver innovative products to serve these customers. One way Apple tried to adjust its culture and maintain innovation was by starting Apple University in 2008.<sup>1</sup> However, with Steve Jobs' absence, Tesla is increasingly viewed as more like the old Apple.

A key theme of Apple's history under Steve Jobs was innovation, and this was reestablished with the iPod in 2001, and by 2010, millions of iPods had been sold and over 10 billion songs downloaded. The iPod was followed by the iPhone in 2007 in a partnership with AT&T to "bring the Internet to your pocket." In 2008, the updated iPhone 3G was introduced and sold in record numbers. The brilliance of the iPhone was that it combined a phone, watch, digital camera, and GPS into a single device that sold at a premium, but still less than the price of separate products. In 2010, the iPad was the next innovation, and it created a market for a product that crossed a phone with a laptop computer. However, Steve Jobs died in 2011, and Apple has not introduced another successful, innovative product line.

Following Jobs' death, Tim Cook became CEO. Even after five years as CEO, Tim Cook still lives with Steve Jobs' shadow at Apple. In 2017, two major reminders of Steve Jobs remain, including the 10<sup>th</sup> anniversary of the iPhone's introduction and moving into Apple's new headquarters that was approved during Steve Jobs' last public appearance. Still, Tim Cook's personality is starkly different from that of Steve Jobs. When he became CEO, Tim Cook reversed Steve Jobs' policy of not offering a dividend in 2012 and in 2016 committed to raising Apple's dividend annually. Tim Cook also signaled someone different was in charge with new initiatives on things Steve Jobs opposed, including matching Apple employees' charitable donations up to \$10,000 a year. Tim Cook has also reshaped the management team and fired Steve Forstall, who clashed with other executives without Steve Jobs to mediate.

However, Tim Cook's selection also signaled that no large changes would be expected, and this has been reflected in Apple largely releasing derivatives of existing products (e.g., iPhone 5, 6, and 7; iPad mini). While Apple has made acquisitions (e.g., Beats in 2014) and released products that complement the iPhone (Apple Watch and Air Pods), new products have had mixed success (Apple TV) making Apple increasingly reliant on iPhone revenues (~70 percent revenues), and existing customers. For example, only 10 percent of iPhone 7 sales were to customers switching from other phones. This relates to Apple also facing trouble internationally. China used to be 25 percent of Apple's total sales, it has now fallen to about 20 percent and Apple sales of phones trail four Chinese domestic competitors.

Key to future success is Apple's ecosystem made up of integrated hardware and software, as well as services. Apple relies on hardware sales and revenue supplemented from purchases within its closed ecosystem where it takes approximately 30 percent of sales. However, Apple's success has invited imitation and increasingly capable competitors. For the sake of brevity, the review of competitors is provided in the following bullets. A major industry convergence is taking place where hardware, software, and services are all combined into ecosystems (Note: More detail on Apple's competition can be found in the answers to suggested questions.)

- **Alphabet:** Primarily a web search firm, Alphabet reorganized into a holding company with Google as its main division that competes with Apple. Google provides its Android operating system to phone developers for free. Google is also developing inexpensive Chromebook laptops, as well as Chromecast, a device similar to the current Apple TV, and its Google Home product. More recently, Google also launched its own lines of phones (Google Pixel) and also offers wireless services (Google Fi).
- **Amazon.com:** Directly competes with Apple's iTunes and tablet computers. Especially strong in Web services (AWS) and now making a major push in the augmented reality (AR) with Alexa, its voice-controlled operating system that finds its way into the Echo speakers and elsewhere.
- **Microsoft:** Perhaps the firm most affected by the shift to mobile computing, Microsoft appears to be playing catch-up. It has acquired Nokia to increase adoption of its operating systems on phones, but it has largely exited that business following several write-downs. However, Microsoft has experienced some success with its Surface tablet computer. Microsoft also opened its own retail stores to better compete with Apple. Microsoft's CEO Satya Nadella has completely refocused Microsoft on a "mobile first, cloud first strategy," and as made major inroads with Azure, Microsoft's cloud-computing services and making Microsoft products available in the cloud to businesses and end-consumers.
- **Samsung:** Samsung has become the global smartphone leader by employing a different strategy than Apple. Relying on Google's Android software, Samsung has introduced multiple phones and tablets with screen sizes varying from three to ten inches. This has enabled Samsung to saturate the market with lower-cost products to meet different needs, resulting in intense competition and legal battles. In 2016, Samsung had a major recall with its Galaxy Note 7 phone, but appears to be on the rebound in 2017 when launching its new Galaxy S8 phone. Also, in 2017, Lee Jae-yong, Samsung's de-factor leader, was arrested on bribery charges in the wake of the scandal surrounding former South Korean president Park Geun-hye.
- **Chinese competitors:** The case also introduced four Chinese firms (Huawei, Oppo, Vivo, and Xiaomi) that lead Apple in smartphone market share in China. Their products are not simple knock-offs and offer state-of-the-art technology leading Apple to open its first research center in Beijing, China, in 2016. With its latest model, the P10 Plus released in 2017, Huawei is making inroads in Europe but also partially in the U.S.

The case concludes with a discussion of Apple's challenges, including a reliance on the iPhone and China, and the need to develop new products or markets. Tim Cook knows he needs to chart a path to continued growth, but it is unclear from where that growth will come. The case suggests this could come from introducing less-expensive products, developing another revolutionary product, or expanding Apple's presence in emerging markets. This highlights that the short-term competitive pressures are compounded by the need for Apple to decide how it will compete in the long term.

## Key Concepts

- Vision, mission, and values
- Strategic leadership
- Internal analysis
- External analysis
- SWOT analysis
- Industry convergence
- Competition
- Innovation
  - Innovation ecosystems
- Technology strategy
- Corporate strategy
  - Mergers and acquisitions
  - International

## Suggested Discussion Questions

The case is tailor-made for class discussion because students will be familiar with the companies and their products. In class, this discussion can lead to insights into how technology changes and the convergence of markets have increased competition between technology firms.

1. Explain Apple's success following Steve Jobs' return. What does this suggest is Apple's core competency?

2. Perform a SWOT analysis for Apple.

Optional:

2b. Perform a SWOT analysis for Alphabet.

2c. Perform a SWOT analysis for Amazon.

2d. Perform a SWOT analysis for Microsoft.

NOTE: It is recommended that a SWOT analysis be linked with Question 8: Considering the internal and external environment for your assigned firm (e.g., Apple, Amazon, Google, and Microsoft), develop alternatives for how it can adapt to increased competition.

### 3. Does Apple have a “good strategy”?

A “good strategy” is defined by three key areas (Rumelt, 2011):

- A *diagnosis* of the competitive challenge. This element is accomplished through *analysis* of the firm's external and internal environments.
- A *guiding policy* to address the competitive challenge. This element is accomplished through *strategy formulation*, resulting in the firm's corporate, business, and functional strategies.
- A *set of coherent actions* to implement the firm's guiding policy. This element is accomplished through *strategy implementation*.

### 4. Describe Apple's international strategy, and suggest how it may need to be modified with growing international competition.

### 5. Looking towards the future, is Apple's competitive advantage sustainable? Why or why not?

### 6. What should / can Tim Cook do to extend Apple's competitive advantage? Be specific.

## Suggested Answers

#### 1. Explain Apple's success following Steve Jobs' return. What does this suggest is Apple's core competency?

After Steve Jobs' return to Apple, he understood technology changes and did not try to disrupt the Wintel dominant design in personal computers, but followed the strategy of waiting for the “next big thing.” Based on information in the case, following Steve Jobs' return until his untimely death, Apple introduced the following products:

- iPod (2001): a line of portable digital music and media players
- iTunes (2002): a service that allows customers to purchase and download digital content and applications, including the App Store and iBookstore
- iPhone (2007): a combination mobile phone, iPod, and Internet communications device
- iPad (2010): a multipurpose mobile device used for activities such as web browsing, e-mail, photos, video, music, e-books, and games

Technological changes went on to provide the opportunity for new Apple products. For example, the miniaturization of computing power begun by Intel with non-volatile memory and lithium rechargeable batteries enabled Apple to introduce the iPod (2001), disrupting the music industry (e.g., Sony) with iTunes (2003) and unbundling songs previously sold in groups on physical media (CD) by using the Internet. This initial success was then leveraged and combined with wireless technology to

combine the ability to play music, take digital photographs, use GPS, text, and make phone calls on the iPhone (2007). This introduction of smartphones disrupted the cellphone industry (Motorola / Nokia / Blackberry). By combining multiple features into a single device, smartphones also disrupted stand-alone digital cameras (e.g., Kodak) and GPS (e.g., Garmin). The iPad (2010) further extended Apple's disruption to the original personal computer industry (e.g., Dell, Hewlett-Packard, IBM, etc.) with the introduction of tablet computing using Wi-Fi that also added video chat, document reading, e-mail, web-browsing, and more.

Apple was successful with its disruption by offering greater value through combining products or changing business model. This is most evident with iTunes where customers could buy an iPod in 2003 for \$300 (see history of iPod prices in link below). Meanwhile, the price of a music CD was approximately \$15–20. However, people buying a music CD generally were interested in one or two songs on the CD. On iTunes, only the songs people wanted could be bought for 99 cents. This means that after buying only 20 songs on iTunes that the breakeven price of buying an iPod was met with future song purchases actually saving users money versus buying music CDs. The same logic can be applied to the iPhone combining features of multiple products (digital camera, GPS, cellphone) into one.

The preceding suggests Apple's core competency relates to integrated hardware and software design. Beginning with the iPod and iTunes, Apple combined features into a seamless product. For example, prior MP3 players required users "rip" music from CDs and then transfer the files to the MP3 player . . . something not all customers could do. However, with iTunes, all a person had to do is buy the songs and "sync" them to their iPod. This was all done seamlessly with iTunes launching when an iPod was detected on a computer. Further, Apple largely limited the addition of songs to an iPod to those purchased through iTunes. Allowing customers to buy only the songs they wanted, iTunes disrupted the existing business model of selling CDs of 15 songs. Integrated hardware and software design was also demonstrated in the iPhone 3G, integrating multiple products (e.g., phone, GPS, pager, camera) into a single device. Apple benefits from focusing on hardware and software integration and divesting "non-core" activities such as production. This lowers Apple's costs, and combined with an ability to charge premium prices for superior products, (resulting from integrated hardware and software) results in superior profits (see **Exhibit TN-1**).

Note: Perceptions of Apple's core competency and superior performance relating to integrated hardware and software design are reinforced by Google attempting to integrate its software with its own hardware with the Pixel phone in 2016.

## 2. Perform a SWOT analysis for Apple

To aid in-class discussion, we also provide brief SWOT analyses here for Alphabet, Amazon, and Microsoft. Please see **Exhibit TNs-2-5** for SWOT examples.

- 2a. Perform a SWOT analysis for Alphabet
- 2b. Perform a SWOT analysis for Amazon
- 2c. Perform a SWOT analysis for Microsoft



## SWOT DISCUSSION PLAN

A better understanding of Apple requires also considering its competitors, and a comparison of the different “technology titan” SWOT analysis can better put the challenges Apple faces into perspective. As an aid, the table below provides an outline for how to organize the discussion, based on asking students the following questions, moving to fill in the table from top left to the right and then down:

1. How does Apple (and other technology titans) make money?

This should outline that each company uses different business models.

2. What are Apple's (and other technology titans) strengths and weaknesses?

This will highlight some important commonalities (strong brand and cash balance), and differences with Apple and Amazon having closed systems and Alphabet and Microsoft depending more on others creating or providing the hardware its customers use.

3. What are Apple's (and other technology titans) opportunities?

The most obvious opportunity is moving into established markets proven by other firms to be multi-billion dollar industries, including smartphones (Google Pixel and Microsoft Lumia), or that an opportunity for one firm represents a threat for another. Specific to Apple, the firm offers Operating Systems (OS) that compete with Microsoft, and its Safari internet browser that competes with Google's Chrome. However, Apple also deals with Google offering its Android operating system to rival smartphone companies, and Microsoft developing its Surface tablet.

4. How does each firm approach innovation?

Apple and Microsoft follow top-down approaches to innovation, or apply a system where employees work on what they are told. Meanwhile, Google allows employees to devote 20 percent of their time to other activities to create an internal labor market. Amazon appears to fall somewhere in between with a focus on providing customer service.

5. What is the next major area of growth, and how can that be monetized?

This is a difficult question, but follow-up questions can focus on how students change how they interact with information. Next, ask what will their children use instead of smartphones?

The personal computer (PC) with a graphical interface dominated access to information for 20 years when combined with the Internet, but it was replaced by smartphones with a graphical interface that provided increased mobility. Students likely increasingly access information using their voice with Apple's Siri or Amazon's Alexa. This suggests the 10 year dominance of smartphones with a graphical interface will be replaced with natural language (digital assistants) or potentially augmented reality (AR). Apple faces high stakes as AR fits with its existing business model (even though it lags competitors), and digital assistants may not fit with its existing business model. The impact of different competitors employing different business models can be significant as Blockbuster was unable to adapt its business model to survive Netflix's subscription model, and Gillette is losing sales to online razor firms with a subscription model, such as DollarShaveClub. (See **Exhibit TN-6** for a comparison of Apple, Alphabet, Microsoft, and Amazon.)

### 3. Does Apple have a “good strategy”?

A “good strategy” is defined by three key areas (Rumelt, 2011):

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- A *guiding policy* to address the competitive challenge. This element is accomplished through *strategy formulation*, resulting in the firm’s corporate, business, and functional strategies.
- A *set of coherent actions* to implement the firm’s guiding policy. This element is accomplished through *strategy implementation*.

**Diagnosis:** While Apple needs new products and associated revenue streams to maintain growth, Apple’s success reflects a strategy of matching firm capabilities to external and internal environment.

**External Environment.** Apple was able to integrate technology developed by others into a better design, as evidenced by the iPod, iTunes, and iPhone. For example, even the iPod’s innovative wheel rested on a Danish company’s cellphone.<sup>2</sup> What had an even greater impact on Apple’s success, however, were industry forces— multiple suppliers (low supplier power) made the electronic components for the iPod and iPhone readily available. Further, keeping iTunes a closed system and utilizing forward integration in Apple stores maintained Apple’s relationship with customers, thus limiting the need to share profits with retailers. This reflects how industry conditions for hardware facilitated Apple’s strategy and how Apple adapted its retail strategy to limit the power of customers (retailers). Apple’s closed system and strong brand also limited the power of individual users.

**Internal Environment.** Following Steve Jobs’ return, Apple waited until new opportunities arose and then moved quickly. It also forward integrated into retail to maintain control over the customer experience. Additionally, Apple has a history of making acquisitions of firms to fill in needed capabilities, including iTunes (SoundJam) and speech technology (Siri).<sup>2</sup>

**Guiding Policy:** Under Steve Jobs there was a consistent push to move into new areas and a focus on product design. Under Tim Cook, an emphasis on product design continues, but the push into new areas has largely stagnated with a new successful product line not introduced since 2010. This may relate to a need to adapt and allow more generation of ideas from the bottom-up in the absence of Steve Jobs’ vision.

**Implementation:** Continuing to offer premium products, customer experience, and keep costs to a minimum (outsourcing) have enabled Apple to continue superior performance. However, there remains a clear need to develop new products, and that likely relates to three options.

To maintain sales growth, Apple faces three primary options:

1. *Develop a new product and revenue:* The potential contenders involve figuring out how to make money from its digital assistant, Siri, or an augmented reality (AR) product to disrupt the iPhone. This will likely require increased R&D.
2. *Increase sales of complementary products:* While the Apple Watch represents a largely unsuccessful attempt and increasing sales with a complementary product, the AirPods wireless headphones for the iPhone 7 represent a largely successful complementary product.



3. *Acquire growth:* With approximately a \$250 billion war chest, Apple could simply acquire growth through a cash purchase of Tesla, Netflix, or Disney. Apple could also likely acquire Facebook with a combination of cash and financing.

**4. Describe Apple's international strategy, and suggest how it may need to be modified with growing international competition.**

Apple's business model is largely reliant on selling new hardware, and its international strategy is global-standardization, or Apple offers the same phones worldwide. While older phones are discounted and sold in emerging markets, iPhones are sold in 155 countries and iOS supports 40 languages. However, the bulk of Apple's revenues from the iPhone come from North America and Europe.

While Apple varies the price of its phone somewhat internationally and dumps older phones in emerging markets, new, low-cost competitors from China suggest that Apple may need to develop tiered products, or a transnational strategy. This could enable Apple to be more responsive and extend beyond middle to upper class customers. To some extent, Apple already unsuccessfully tried this with the iPhone 5C that was mocked as "for China" and featured different colored plastic covers that were inconsistent with its aspirational brand.<sup>3</sup> However, if Apple neglects to add new customers in emerging markets, then it risks customers never being introduced to Apple products. For example, India is Apple's fastest growing market, but the price of smartphones exceeds the reach of most of India's citizens with the iPhone 8 projected to cost over \$1,000.

**5. Looking towards the future, is Apple's competitive advantage sustainable? Why or why not?**

There is not a clear answer, but the history of companies stumbling is not on Apple's side.

Yes, Apple likely has a sustainable competitive advantage. While it needs new products and sources of growth, Apple has over \$250 billion in available cash allowing it to either develop or acquire needed growth. Its established brand offers legitimacy to acquired companies (SoundJam and iTunes; Siri) and an established base of customers.

No, Apple will face increasing difficulty to innovate.<sup>4</sup> Currently, Apple's reliance on the iPhone is reminiscent of Microsoft's reliance on the PC. Just like Microsoft previously, Apple is reliant on customers upgrading and buying new iPhones. For Microsoft, the company had an implied subscription model where customers upgraded their computers to buy new versions of its software roughly every two years. However, technology changes and how people interact with information and technology is moving from graphical interfaces to natural language (digital assistants) or augmented reality (AR). Apple trails competitors in both areas, and its business model and core competence of integrated design of hardware and software may only apply to a future where people depend on AR to access information.

Separately, firms that set new records for market capitalization (e.g., Microsoft, Cisco) often fall,<sup>5</sup> and a firm's fall is often associated with a new headquarters building.<sup>6</sup>

**6. What should / can Tim Cook do to extend Apple's competitive advantage? Be specific.**

Below are several options that are not exhaustive and may be used in combination.

- Maintain Apple's ability to innovate.

Most analysts agree that Apple will continue to perform well in the short term. Incremental improvements in the current product lineup will provide strong revenue streams for many years, even without another technological breakthrough. However, there is a legitimate concern that the Apple of the future will not be the maverick it is today.

*How to address?* Cook must learn to trust his own leadership instincts and take calculated risks to keep Apple moving forward. Jobs did his best to ensure a lasting legacy of innovation by working with Cook and other senior managers to establish Apple University, a systemized approach to capturing and teaching the company's unique management style to future generations of leaders.

- Retain Apple's top executives and grow other talented employees

Without a clear vision, there is a risk that more of Apple's senior executives might cash in their stock options and depart for leadership positions at other companies. For Example, Ron Johnson, previously head of Apple retail, left to become CEO of JCPenney, and hundreds of employees have moved to Tesla. As respected people leave, other employees will likely follow them. For example, other Apple employees that left for JCPenney include Michael Kramer (Chief Operating Officer), Daniel Walker (Chief Talent Officer), and Kristen Blum (Chief Technology Officer).

*How to address?* Tim Cook must avoid abusing the power of his position and appear as if he is trying to replace Steve Jobs, which would diminish his influence. Cook would do better to appeal to a sense of duty in a shared legacy where managers need to do their part to keep Steve Jobs' vision alive.

- Leverage brand loyalty through targeted acquisitions

Apple currently has one of the most loyal customer groups in the technology market, and the average Apple user has three Apple devices. Increasing the number of Apple products customers own to four or five would open up massive revenue streams for the company. People wait in line for days in order to purchase the newest Apple product. Apple needs to leverage the excitement of people waiting in line for days to purchase the newest Apple product to new products. If it proves difficult to develop those products in-house, then Apple needs to acquire them.

*How to address?* Cook may need to partner with Venture Capital firms or create a venture capital arm<sup>7</sup> to identify emerging technology.

## Case Take Away

- High profits attract competition (new entrants)
  - Chinese competitors increasingly offer advanced phones at cheaper prices that imperil Apple's growth in emerging markets.
  - Established technology firms' markets increasingly overlap as they see opportunity for growth/profits in the markets of other firms.
- Technology innovation involves both new products and business models
  - Apple needs to develop a new product and associated revenue streams. Apple customers drove revenue from moving from iPods to iPhones, but now revenue depends on existing

customers upgrading to new iPhones. However, the rising price of new iPhones limit both sales to new customers and existing customers.

- Apple's vulnerability to iPhone revenue is amplified by new technology from competitors with different business models. While augmented reality is consistent with Apple's existing business model, Amazon currently has an advantage in digital assistants with the Amazon Echo increasing its sales.
- Strategy follows structure, and a firm adapting its strategy requires restructuring
  - Prior strategy was driven by Steve Jobs' vision and innovation that was top-down. Absent a visionary technology leader requires Apple to adapt its structure to enable more bottom-up innovation.
- Acquisitions can substitute for internal development and growth
  - Apple can use its available cash to acquire new products and sources of growth.
- Business competition drives change
  - Apple will eventually be replaced as the top company . . . just as IBM, Microsoft, ExxonMobil, Cisco, and other leading firms have been supplanted. If it is not Amazon, it may be a company we are not even aware of yet.

## Additional Resources

### 1. Articles

- For background on how difficult Steve Jobs was to deal with, here is a description of the story behind how Apple's "Think Different" commercial was developed in a December 2011 *Forbes* article, see: <http://www.forbes.com/sites/onmarketing/2011/12/14/the-real-story-behind-apples-think-different-campaign/>
- A description of Samsung's product strategy (June 2013) by Wired magazine, see <http://www.wired.com/gadgetlab/2013/06/samsungs-product-strategy/>
- Speculation on potential Apple acquisitions (2017): <http://www.cnn.com/2017/05/05/citi-the-seven-companies-apple-could-buy.html>
- Example of Apple's market power versus suppliers (2017): <https://www.theguardian.com/business/2017/apr/03/apple-u-turn-sends-imagination-technologies-shares-into-freefall>
- Coverage of iPhone 8 update, including it will be delayed:
  - <http://fortune.com/2017/05/03/apple-iphone-8-2/>
  - <http://bgr.com/2017/05/04/iphone-8-release-date-soon-design-function-area/>
  - <http://www.express.co.uk/life-style/science-technology/800608/Apple-iPhone-8-release-date-fingerprint-scanner-Samsung-Galaxy-S8-rear-case>

### 2. Videos

- Apple's new headquarters (3:54): <https://www.youtube.com/watch?v=gvykhSudzKds>

- Apple's 1984 Super Bowl commercial introducing the Macintosh computer.(1:00 min): <https://www.youtube.com/watch?v=R706isyDrqI>
- Apple's "Think Different" commercial released following Steve Jobs' return to Apple in 1997. (1:10 min): <https://www.youtube.com/watch?v=cFEarBzelBs>
- A Wall Street Journal summary of Steve Jobs' career on the day he announced his resignation as CEO in 2011 (9:39) "Steve Jobs through the Years." <http://online.wsj.com/video/steve-jobs-through-the-years/779F0E04-56B8-44BB-B1F5-3B95FF22C4B3.html>
- Tim Cook's first interview (December 2012) following his becoming CEO on Rock Center with Tim Williams that also introduces Apple's retail stores and discusses the challenge of Apple continuing to be successful without Steve Jobs. In addition, the interview covers potential missteps, including Apple Maps, and increasing competition from Samsung among others. (11:08 min): [http://rockcenter.nbcnews.com/\\_news/2012/12/06/15708290-apple-ceo-tim-cook-announces-plans-to-manufacture-mac-computers-in-usa](http://rockcenter.nbcnews.com/_news/2012/12/06/15708290-apple-ceo-tim-cook-announces-plans-to-manufacture-mac-computers-in-usa)
- Video describing Google's reorganization into Alphabet (2:41 min): <https://www.youtube.com/watch?v=t71io5sK5IY>
- Comparison of digital assistants(2:50 min): [https://www.youtube.com/watch?v=V\\_LCubfIFAI](https://www.youtube.com/watch?v=V_LCubfIFAI)

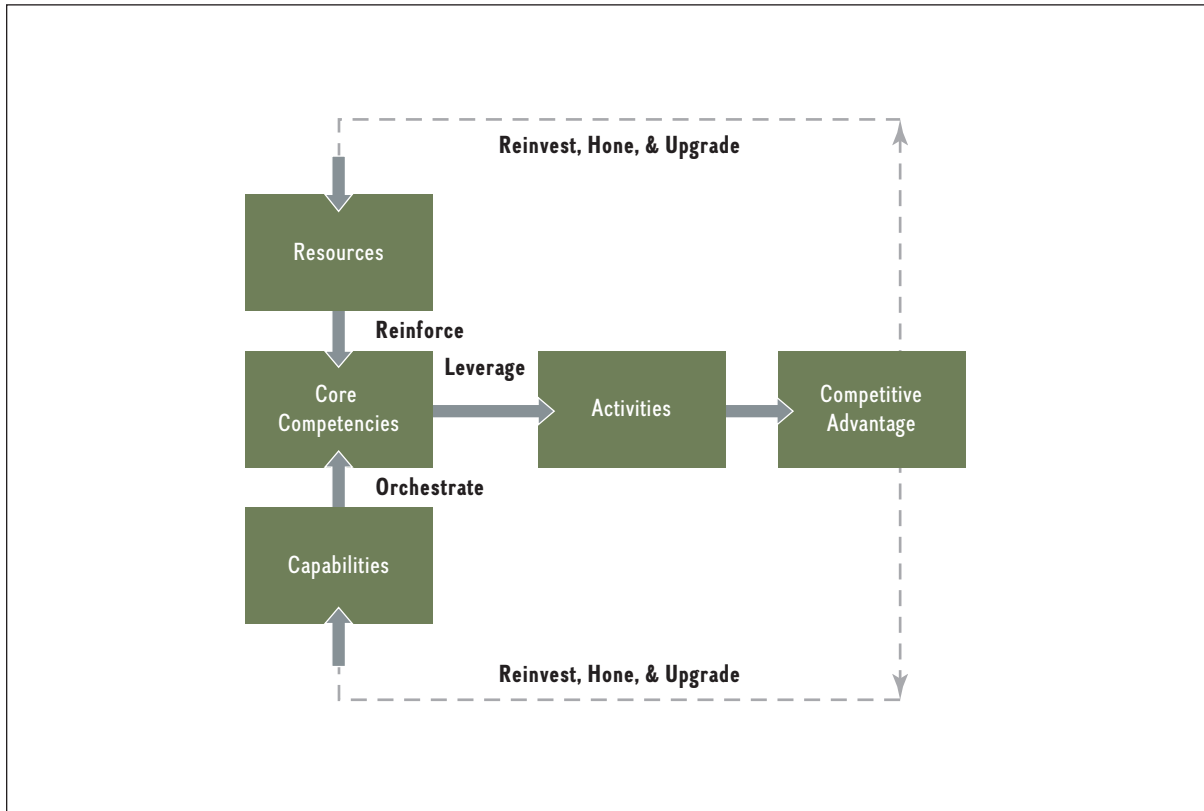
### 3. Movies

- JOBS. <http://jobsthefilm.com/>

### 4. Books

- Isaacson, W. (2011). *Steve Jobs*. New York: Simon & Schuster.
- Kane Iwatani, Y. (2014). *Haunted Empire: Apple after Steve Jobs*. New York: HarperCollins.
- Rumelt, R. (2011). *Good Strategy, Bad Strategy: The Difference and Why It Matters* (New York: Crown Business).

**EXHIBIT TN-1 Linking Core Competencies, Resources, Capabilities, and Activities to Competitive Advantage and Superior Performance**



Source: Rothaermel, F.T. (2018), Strategic Management, 4th edition. Burr Ridge, IL: McGraw-Hill.

## EXHIBIT TN-2 Apple SWOT

Strengths	Weaknesses
<p><b>Executive talent</b>—Apple has a deep bench with expertise in industrial design, product development, computer software, and marketing. Jonathan Ive is perhaps the best-known industrial designer in the world.</p> <p><b>Cult-like customer base</b>—Apple customers are fiercely loyal.</p> <p><b>Patented operating system</b>—The iOS is the brain behind the Apple device ecosystem and is perhaps the company's most highly valued asset.</p> <p><b>Apple ecosystem</b>—Apple surrounds its core products with a system of complements (such as iTunes) that increase their overall value. For example, Apple's iCloud allows data to be stored remotely, backed up, and shared between multiple devices over the Internet, rather than uploading through a computer, and this creates customer switching costs.</p> <p><b>Brand recognition</b>—Apple is one of the most highly-valued and widely-recognized corporate brands.</p> <p><b>Retail outlets</b>—Though analysts were initially skeptical when Apple opened its own retail outlets, Apple Stores have been very successful and are known for their unique environment and expert service.</p> <p><b>Strong company financials and cash reserves</b>—Apple's retail success has permitted it to build an enviable financial portfolio, providing it with ample cash for future investments.</p>	<p><b>Loss of Steve Jobs</b>—Despite the company's deep executive bench, Apple has not continued with its legacy of producing innovative devices without its iconic leader.</p> <p><b>Loss of other key talent</b>—Apple has lost hundreds of employees to Tesla that promises to maintain a culture associated with what Steve Jobs created. Other firms are likely to try to poach additional executives from Apple's ranks.</p> <p><b>Corporate governance</b>—Apple's board is relatively small and had very close personal connections with Jobs, which some argued limited its members' willingness to exercise appropriate oversight. Pressure for governance reform at Apple is likely to continue, if not increase.</p> <p><b>High cost of products</b>—Apple's differentiation strategy makes it easier for competitors to compete on cost to gain market share.</p> <p><b>Increased dependence on iPhone</b>—Almost 70 percent of Apple's revenue is tied to iPhone sales that increasingly rely on existing customers to upgrade and not switch to competitor phones.</p> <p><b>Declining position in China</b>—At one point, China accounted for 25 percent of total revenues, now down to 20 percent. Weaker position in China affects Apple's top and bottom line directly. Compounded by its dependence on the iPhone. One could argue that Apple is "one trick pony (iPhone)", depending too much on one country (China).</p>

(continued)



EXHIBIT TN-2 (continued)

Opportunities	Threats
<b>Mobile advertising</b> —Mobile advertising is growing significantly, and Apple iAds unit to compete with Google and Facebook.	<b>Antitrust investigations</b> —Apple's dominance of the mobile-device market and the integrated and proprietary ecosystem has led to increased complaints from competitors.
<b>Consumer market trends</b> —Generation X and younger generations are tech savvy and will continue to demand new and improved technology devices. If Apple does not provide them, any number of competitors will (e.g., Amazon Echo).	<b>Allegations of labor abuse in China</b> —Apple remains reliant on its suppliers for most of its production, and its increased success has amplified visibility on worker conditions in the Chinese plants where Apple's devices are made.
<b>Application offerings</b> —Apple products become more useful as more applications are created to run on them. Application sales have the potential to continue to grow and create a great deal of the revenue.	<b>Competition</b> —Traditional boundaries between Apple, Alphabet, Amazon, and Microsoft are increasingly blurring, leading these technology powerhouses into direct competition (e.g., iPhone versus the Google Android, or iTunes versus Amazon.com). Additionally, Apple faces increased smartphone competition from Chinese competitors.
<b>Electric cars and autonomous vehicles</b> —There is the possibility of a move into the electric-car market with established competitors (Apple Car).	<b>Technology change</b> —The technology industry is constantly growing and changing, with new companies or competitors able to completely take over a market in a short amount of time.
<b>TV / video-on-demand</b> —There are multiple indications that Apple may be planning to produce a fully integrated, flat-panel TV with 3D capabilities (Apple TV).	<b>Legal concerns</b> —There are ongoing lawsuits with various competitors, including countersuits with Samsung on patent infringement, as well as lawsuits with Qualcomm.
<b>Mobile payment systems</b> —are becoming more widely accepted providing an opportunity for continued growth (Apple Pay).	<b>Exposure to rapid sales decline</b> —One could argue that Apple is a "one trick pony (iPhone)", depending too much on one country (China).

Source: Courtesy of D. R. King.

## EXHIBIT TN-3 Alphabet SWOT

<p><b>Strengths</b></p> <p><b>Brand</b>—While Alphabet is not widely recognized, Google is synonymous with online search.</p> <p><b>Market share</b>—Alphabet's Google division dominates online search on desktops, and is gaining market share both with its Chrome Internet browser and with its Android mobile operating system. This is reinforced by Google offering these services for free and having revenues come from advertising.</p> <p><b>Culture of innovation</b>—Google employees spend 20 percent of work on issues that they find interesting, making Google able to develop new products and enter markets quickly with a focus on succeeding or failing fast to avoid losses.</p> <p><b>Acquisitions</b>—Google has integrated YouTube, Nest, and other assets to expand its interaction with customers and enable advertising.</p>	<p><b>Weaknesses</b></p> <p><b>Dependence on advertising</b>—Alphabet receives over 90 percent of its revenues from online and mobile advertising.</p> <p><b>Lack of strategy</b>—Roughly 90 percent of Alphabet's revenue comes from advertising. Additionally, Alphabet has not communicated any plans on how to significantly monetize other products, such as Google Home.</p> <p><b>Employee retention</b>—Google has lost some top executives to competitors, such as Sheryl Sandberg to Facebook and Marissa Mayer to Yahoo. Note: This likely contributed to Google re-organizing into Alphabet that allowed multiple executives to have CEO titles.</p> <p><b>Zombie products</b>—Google has a number of products with a relatively low market share, including media content through Google Play.</p>
<p><b>Opportunities</b></p> <p><b>Create branded products</b>—While Google's attempts at making its own hardware (phones) have failed in the past, it is experiencing success with Google Home and Chrome books.</p> <p><b>Expanding access</b>—Worldwide, only 34.3 percent of people are Internet users, suggesting there are approximately 4.5 billion potential Google customers as the Internet becomes more available throughout the world.</p> <p><b>Growing advertising market</b>—Alphabet displays internal synergies on search and advertising with YouTube that may be applied to by offering television service or combined with Google Home.</p>	<p><b>Threats</b></p> <p><b>Regulation</b>—Google faces increased scrutiny from governments, with Europe currently investigating antitrust violations and tax avoidance.</p> <p><b>Customer change</b>—Google customers have minimal switching costs, and the company is vulnerable to changes in consumer preferences toward Internet access and entertainment.</p> <p><b>Web security and infrastructure risks</b>—Security breaches, hacks, and Internet outages and blockages pose risks to Google's reputation and revenue, and may open it to litigation.</p>

Source: Courtesy of D. R. King.

EXHIBIT TN-4 Amazon SWOT

<p><b>Strengths</b></p> <p><b>Brand</b>—Amazon is synonymous with online purchases, and it has a reputation for good customer service.</p> <p><b>Low-cost, wide product selection</b>—Amazon has a wide selection of goods, is reliable and convenient, and it offers low prices with fast shipping.</p> <p><b>Efficient logistics and distribution</b>—Amazon has warehouses that have been geographically placed to focus on efficiency and keeping costs low, and this has enabled it gaining third party sales.</p>	<p><b>Weaknesses</b></p> <p><b>Low margins</b>—Amazon sells its best-selling Kindle devices near cost to gain market share and anticipates revenues from people buying content for the devices from Amazon.</p> <p><b>Negative publicity</b>—Amazon has been criticized for retail job losses and for work conditions in its warehouses.</p> <p><b>Third-party merchants</b>—Many of the products sold on Amazon are by other retailers, but Amazon's reputation is hurt when customers have bad experiences.</p>
<p><b>Opportunities</b></p> <p><b>Additional branded products</b>—Amazon could release additional products under its brand.</p> <p><b>Economies of scope</b>—Amazon can use its IT skills to generate consulting revenue and excess server capacity to provide cloud computing services.</p> <p><b>Amazon Prime</b>—Amazon has the potential to convert most of its customers from a transaction business model to a subscription model with more consistent revenue by creating switching costs.</p> <p><b>Amazon Echo</b>—Amazon's new in-home product with its Alexa digital assistant offers new ways to interact with customers and increase sales.</p>	<p><b>Threats</b></p> <p><b>Online security</b>—Amazon stores shoppers' personal information, such as payment information, making it a target for hackers.</p> <p><b>Competition</b>—Traditional boundaries between Apple, Alphabet, Amazon, and Microsoft are increasingly blurring, leading these technology powerhouses into direct competition.</p> <p><b>Tax legislation</b>—Amazon will start collecting sales tax and have to account for different tax rates between states, counties, and cities.</p> <p><b>Alibaba</b>—Alibaba has a strong position in China and business model of acting as a broker between buyer/sellers has lower infrastructure costs (no warehouses/shipping) than Amazon.</p>

Source: Courtesy of D. R. King.

## EXHIBIT TN-5 Microsoft SWOT

<p><b>Strengths</b></p> <p><b>Strong financials</b>—Microsoft has a large amount of cash on hand and high profitability for its operating systems.</p> <p><b>Business standard</b>—Microsoft still has a 90 percent market share in new computer operating systems, and businesses worldwide largely use its Office Suite for word processing and e-mail.</p> <p><b>Patents</b>—Microsoft has an unrivaled portfolio of patents, with 17,000+ U.S. patents.</p> <p><b>Gaming hardware</b>—Xbox gained the lead in global game console sales after the release of Kinect, which allows users to play video games without a controller and download TV shows and movies.</p>	<p><b>Weaknesses</b></p> <p><b>Shifting business model</b>—This challenge is reflected in Steve Ballmer's retirement by his replacement, Satya Nadella. Microsoft's board seems to recognize the firm's culture has contributed to its fading strength, as it maintained a focus on business customers at the expense of a rapidly growing personal consumption market. The development of Windows 10 and other signals suggests a move to a subscription business model that depends on market acceptance.</p> <p><b>Innovation</b>—Microsoft has executed a late-arrival product development strategy with lower product acceptance (e.g., Zune music player, Bing Internet search, Windows phones).</p> <p><b>Diminishing brand</b>—Microsoft is not viewed as "cool," with other technology companies having more favorable brand images (e.g., the Mac vs. PC advertising campaign).</p>
<p><b>Opportunities</b></p> <p><b>Emerging markets</b>—PC sales are still growing in China, the world's largest PC market.</p> <p><b>Product Bundling</b>—Office 365 integrates Bing into Microsoft's highly adopted suite of business software, increasing usage, adoption, and opportunities for displaying ads, which represents an opportunity to steal search engine market share from Google. Seamless integration of the acquisitions of Skype and LinkedIn into Windows and Office presents a clear opportunity.</p> <p><b>Branded products</b>—Microsoft has released its Surface tablet, and has announced Project Evo to provide an in-home digital assistant (i.e., Amazon Echo).</p>	<p><b>Threats</b></p> <p><b>Competition</b>—Traditional boundaries between Apple, Alphabet, Amazon, and Microsoft are increasingly blurring, leading these technology powerhouses into direct competition.</p> <p><b>Mobile gaming</b>—Xbox console sales are threatened as users play more inexpensive games on mobile devices.</p> <p><b>Diminishing PC demand</b>—Consumer electronics have shifted to mobile devices where Microsoft has struggled increasing the pressure on Windows 10.</p> <p><b>Generation shift</b>—Customers are increasingly being exposed to and gaining familiarity with non-Microsoft software.</p>

Source: Courtesy of D. R. King.

## EXHIBIT TN-6 Comparison of SWOT Analyses for Apple, Alphabet, Microsoft, and Amazon

	Apple	Alphabet	Microsoft	Amazon
<b>Business Model</b> (how they make \$)	Sells hardware (iPhone), supplemented by iTunes (razor blade)	Sells Advertising (Google and YouTube)	Software licensing (Windows OS and Office software)	Shopkeeper, (sells products at retail from website) & Subscription (Prime)
<b>Strength</b>	<ul style="list-style-type: none"> <li>• Brand</li> <li>• High profits</li> <li>• Closed ecosystem</li> <li>• Cash balance</li> </ul>	<ul style="list-style-type: none"> <li>• Brand</li> <li>• Innovative</li> <li>• Cash balance</li> </ul>	<ul style="list-style-type: none"> <li>• Brand</li> <li>• High profits</li> <li>• Cash balance</li> </ul>	<ul style="list-style-type: none"> <li>• Brand</li> <li>• Innovative</li> <li>• Growth</li> <li>• Closed ecosystem</li> </ul>
<b>Weakness</b>	<ul style="list-style-type: none"> <li>• Reliant on iPhone (~70% revenue)</li> </ul>	<ul style="list-style-type: none"> <li>• Reliant on advertising (~90% revenue)</li> </ul>	<ul style="list-style-type: none"> <li>• Less innovative</li> <li>• Decline of PC</li> </ul>	<ul style="list-style-type: none"> <li>• Low profits</li> <li>• Cost of warehouses, and employees</li> </ul>
<b>Opportunity = Threat</b> (other billion dollar markets)	<p>Google (removed maps, and increasing advertising revenue)</p> <p>Microsoft (facilitated move to mobile and death of PC; provides alternate operating system)</p>	<p>Apple (provides Android for free ensuring rival phones are ~30% cheaper)</p> <p>Microsoft (provides Chrome OS for free; provides e-mail and Google docs for free)</p>	<p>Apple (provides competing software for phones)</p> <p>Google (Bing attempts to undercut paid search for travel and shopping)</p>	<p>Apple (rival ecosystem and hardware, but can give hardware away at discount and make money on sales)</p> <p>Google (shopping is essentially paid search)</p>
<b>Next?</b>				
<i>Digital Assistants</i>	<p>Siri (Siri speaker)</p> <p>- Unclear if business model supports</p>	<p>Ok, Google (home)</p> <p>-Have not figured out how to monetize</p>	<p>Cortana (Windows 10)</p> <p>-Unclear if business model supports</p>	<p>Alexa (Echo)</p> <p>-Increases app revenue, and sales</p>
<i>Augmented Reality</i>	<p>In development, would fit with business model of selling integrated hardware and software</p> <p>Apple likely wins</p>	<p>Shelved Google Glass, but AR remains in development. Also, unclear how it would monetize.</p>	<p>Hololens, currently available.</p>	<p>Amazon business model likely wins</p> <p>Unknown</p>

Source: Courtesy of D. R. King.

## Endnotes

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