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APPLE INC.: MANAGING A GLOBAL SUPPLY CHAIN[1]

Ken Mark wrote this case under the supervision of Professor P. Fraser Johnson solely to provide material for class discussion. The authors do not intend to illustrate either effective or ineffective handling of a managerial situation. The authors may have disguised certain names and other identifying information to protect confidentiality.

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INTRODUCTION

Jessica Grant was an analyst with BXE Capital (BXE), a money management firm based in Toronto.[2] It was February 28, 2014, and Grant was discussing her U.S. equity mandate with BXE's vice president, Phillip Duchene. Both Grant and Duchene were trying to identify what changes, if any, they should make to BXE's portfolio. "Apple is investing in its next generation of products, potentially the first new major product lines since Tim Cook took over from Steve Jobs," she said. Apple Inc., the world's largest company by market capitalization, had introduced a series of consumer products during the past dozen years that had transformed it into the industry leader in consumer devices.

Apple managed a global supply chain with creative development in the United States, outsourced manufacturing in Asia and components sourced from suppliers around the world. Apple was in the centre of a complex ecosystem that produced market-leading consumer devices. With $160 billion[3] in cash in February 2014, the company was well-capitalized. Despite its commercial success, Apple's stock was at $524.47 on February 28, 2014, 25 per cent below the $700 level it had reached in 2012. Cook reassured investors that the firm was focused on the future, and it had a solid pipeline of new products. This was his way of signalling to stakeholders that he would be able to run the firm following the death of Steve Jobs, one of Apple's co-founders and the man responsible for rebuilding the firm. "We're working on some things that are extensions of things you can see and some that you can't see," Cook said at Apple's annual shareholders' meeting on February 28, 2014.[4]

Industry observers were skeptical that the company could deliver new product successes:

> It is unclear whether the spread-sheeting-loving, consensus-oriented, even-keeled Cook can successfully reshape the cult-like culture that Jobs built. Though Cook has deftly managed the iPhone and iPad product lines, which continue to deliver enormous profits, Apple has yet to launch a major new product under Cook; talk of watches and televisions remains just that . . . in the day-to-day at Apple, Cook has established a methodical, no-nonsense style, one that's as different as could be from that of his predecessor. Job's bi-monthly iPhone software meeting, in which he would go through every planned feature of the company's flagship product, is gone. "That's not Tim's style at all," said one person familiar with those meetings. 'He delegates.'[5]

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Nevertheless, it was clear to Jessica that Apple's product range would get more complex in the next few years. As part of her analysis of Apple's stock, she wanted to take a look at the company's supply chain to see if she could gain some insight into whether to continue with Apple as a key holding in BXE's fund.

APPLE INC.

Apple Computer was founded on April 1, 1976, by Steve Jobs, Steve Wozniak and Mike Markkula to manufacture and distribute desktop computers. Both Jobs and Wozniak started tinkering with computing devices in a time when enthusiasts who wanted a fully functioning computer had to assemble the parts by themselves from individual components. They struck a deal to sell an initial order of 50 units of their "Apple I" computer to a local computer shop, and negotiated a 30-day credit term to pay for the parts, effectively using their suppliers to fund the startup. After selling 200 units of the Apple I, Wozniak improved the design and showcased the Apple II in April 1977. Needing capital for the next phase of their company, they brought on Markkula, a marketing manager at Intel who had retired after making millions on his stock options. The company became the largest private manufacturer of personal computers in the United States and held its initial public offering in December 1980, thereby creating 300 millionaires.

Although it had a great product, the team at Apple soon found that IBM's entry into the market in 1981 would change the industry. By 1983, IBM's personal computer (PC) became the best-selling computer in the United States, heralding the beginning of its domination of the PC market. Even Apple's popular 1984 Superbowl commercial,[6] combined with a heavy marketing campaign, was not enough to stop IBM's growth. Jobs left Apple in 1985. The company stumbled along for the next decade, and even though it launched a line of Macintosh computers such as Quadra, Centris and Performa, it failed to gain traction in the marketplace. Worse, its retail partners such as CompUSA and Sears did not devote resources to displaying its products properly. Apple also suffered from a perception that its machines were more expensive than comparable Windows PCs. The company had poor operating controls and inventory management, failing to properly estimate demand for its products and leading to both stock-outs and excess inventory.[7]

Apple squandered its goodwill from the 1980s Macintosh era. In 1996, Microsoft was one year into the launch of Windows 95, which was turning out to be a very popular operating system. Apple's sales of Macintosh computers fell dramatically and Apple, in an attempt to reverse the trend, began licensing the Mac operating systems to third-party manufacturers. From 1993 to 1996, Apple went through three CEOs: John Sculley, Michael Spindler and Gil Amelio.[8]

In 1996, Jobs returned to the company as CEO at a time when Apple's future was in question. Apple's market capitalization had fallen from $11.6 billion in 1987 to $3.1 billion at the end of 1996. In 1996, sales were $9.8 billion. In the early 1990s, Apple had begun licensing its Mac operating system to third-party manufacturers who would produce their own lines of devices powered by Mac's operating system. Its licensing model was similar to that employed by Microsoft, allowing the operating system producer to earn additional revenues by selling copies to generic computer manufacturers. With the objective of reasserting control over its product, one of Jobs' first decisions was to stop licensing Apple's Mac operating system. This resulted in a fall in computer unit market share from 10 per cent to 3 per cent. Throughout this time, Apple continued to manufacture its own devices. In 1997, Jobs announced a partnership with Microsoft that would see the latter invest $150 million in Apple and release the dominant office software — Microsoft Office — for Macintosh. At the time of the announcement, Apple's market capitalization had continued to fall to $2.5 billion.

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Between 1998 and 2001, Apple launched iMac computers as a line of revamped PCs that focused on design. The computer body was made from bright colours such as green, blue and purple. The line sold well and provided the spark for Apple's return to prominence. In May 2001, Apple announced that it would be opening its own retail stores to enable it to educate consumers and to grow its market share. In October 2001, it introduced the iPod portable digital audio player. Supporting the iPod was the iTunes music store, which was stocked with downloadable songs. At a time when the biggest record labels were worried about pirated songs being downloaded to MP3 players, Apple negotiated a deal with the five largest labels to be part of iTunes. The success of the iPod helped to revitalize Apple's prospects, building a strong financial base from which the firm could grow.

By 2004, Apple was able to gain better control over its supply chain by working with new suppliers on proprietary parts for which Apple would provide upfront capital in return for volume commitments and a lower overall price per unit. Apple's growing clout allowed it to work with its suppliers to launch a series of new products containing significant technological advancements, such as iPod Video, iPod Touch and, by 2007, the iPhone. Concurrently, Apple expanded its retail store base beyond the United States, opening its first Japanese store in 2003.

From 2007 to 2013, Apple's success with its music players allowed it to upgrade its iPhone and iPod line-up, introduce new Mac computers and other products such as Apple TV, and develop its application (app) store, where third party developers listed their apps for consumers to download. In April 2010, Apple reinvented the tablet computer market by launching its iPad. With its slim design, multi-touch screen and touch-sensitive keyboard, the iPad was an instant commercial success. For consumers, the iPad was a portable computer and entertainment device, allowing them to respond to emails, watch videos, play games, and browse the Internet, among other things. While Apple still used retail partners to distribute its products, it sold 70 per cent of its products and services directly to consumers and businesses (see Exhibit 1).

Jessica had seen many reviews stating that Apple's success was due to a combination of design, functionality, marketing and an ability to modify production to meet spikes in demand. She read an article about Apple's launch of its iPhone 5 in September of 2012, including a demonstration of the new phone by the vice president of marketing for Apple, Phil Shiller. Nine days away from that product's official launch, Apple was confident enough in its just-in-time supply chain that it had not yet begun to ramp up production. The company had an aggressive schedule to meet as the iPhone 5 eventually sold at a rate of 3.7 million units per week for the first three months. In addition, it was available in 100 countries from 240 mobile phone carriers. [9]

Intrigued by Apple's ability to coordinate its supply chain on a real-time basis, Jessica started to dig further for details of the firm's operations. She decided to focus on one product, the iPhone, and understand how Apple managed to bring that product to market.

The iPhone's Supply Chain

Apple's iPhone supply chain was global, tying together a research and development base in the United States, 156 suppliers, assembly operations in China and retail stores, some of which were its own Apple-branded stores. Jessica began to trace the path of Apple's iPhone from inception to delivery to customer.

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New Product Development

Apple's management team kept a short new product development cycle. Whereas a traditional product lifecycle – for a new car model, for example – might span four to five years, Apple's iPhone lifecycle was closer to one year. Exhibit 2 provides a list of iPhone models since the first version was launched in June 2007, and Exhibit 3 shows iPhone unit sales by the quarter.

The new product development department coordinated a wide variety of stakeholders, including internal groups such as hardware, software and production. For example, the industrial design team headed by senior vice president, Jony Ive, worked with the production team to ensure that products could be built in large volumes. Instead of outsourcing its manufacturing to third-party service providers — as in the case of Samsung[10] — Apple preferred to control the entire supply chain internally. [11]

Unlike other electronics manufacturers that might outsource the entire production — and management — of their supply chain to a third-party service provider such as Solectron or Flextronics, Apple designers worked in close proximity with suppliers. Quite literally, the designers would often spend "months living out of hotel rooms in order to be close to suppliers and manufacturers, helping to tweak the industrial processes that translate prototypes into mass-produced devices."[12]

Creative design and engineering was managed in California, where Apple developed new technologies, acquired licenses for intellectual property and made bolt-on acquisitions of technology firms whose products could be used in Apple's ecosystem of products and services. Concurrently, Apple conducted market research and product-testing to refine the upgrade being considered. Cost data were put together, including a list of parts and suppliers, and an estimate of what it would cost to assemble the iPhone. Potential quality defects were identified and plans were drawn up to mitigate risk. In 2013, Apple continued to invest heavily in research and development (R&D) to ensure that it would have innovative products in its pipeline. R&D spending was $4.5 billion in 2013, up from $3.4 billion in 2012 and $2.4 billion in 2011.

Apple's devices — unlike Dell's — were available in a limited number of configurations, a deliberate product strategy that allowed its supply chain processes to be streamlined. Apple's technology competitors typically had separate R&D departments and separate profit and loss accountability for each product segment. In contrast, Apple was highly integrated, with centralized R&D and accounting for the entire company.[13]

Procurement

Apple products contained key components that were often sourced from a single manufacturer. Because the different mobile phone firms often used the same components, key parts from a single, popular supplier were regularly out of stock due to overwhelming demand. To counteract this supply issue, part of Apple's procurement strategy was to purchase suppliers' production capacity in advance in order to ensure the steady supply of key parts (see Exhibits 4 and 5). In addition, Apple had a program that allowed it to buy capital equipment for suppliers in exchange for both supply assurance and achieving cost targets.[14]

As a percentage of the selling price of an iPhone, Apple captured approximately 60 per cent as gross margin, and suppliers such as LG and Samsung captured another 5 per cent to 7 per cent as revenues (see Exhibit 6 for a breakdown of the distribution of value from the sale of an iPhone). Product demand was forecast 150 days in advance and updates were continually sent to suppliers to allow adjustments in

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production schedules. Apple's procurement team used sales targets to manage production ramp-up issues and place material purchase commitments, making pre-payments if necessary.[15] It reacted to changes in sales forecasts by altering the orders, often at a moment's notice. Depending on forecast demand, Foxconn was known to wake up its workers – even at midnight – to meet sudden spikes in orders from Apple:

> One former executive described how the company relied upon a Chinese factory to revamp iPhone manufacturing just weeks before the device was due on shelves. Apple had redesigned the iPhone's screen at the last minute, forcing an assembly line overhaul. New screens began arriving at the plant near midnight. A foreman immediately roused 8,000 workers inside the company's dormitories, according to the executive. Each employee was given a biscuit and a cup of tea, guided to a workstation and within half an hour started a 12-hour shift fitting glass screens into beveled frames. Within 96 hours, the plant was producing over 10,000 iPhones a day. "The speed and flexibility is breathtaking," the executive said. "There's no American plant that can match that."[16]

These alterations had an impact on both components and assembly labour requirements. Every quarter, for its current slate of products, Apple reviewed its inventory levels, adjusted its demand forecast, and monitored its cost of components. New products in the development pipeline were added to the review as well.

An analyst estimated that the bill of materials for the iPhone 5 ranged from $199 to $230 for sub-models that retailed for $649 to $849 (see Exhibit 7). The production of the iPhone began with orders placed to 156 component suppliers around the world. It was normal for Apple to sign exclusivity agreements with key suppliers. For example, when Ive found a U.S. laser equipment supplier that made $250,000 machines to cut precision holes, an agreement was signed to secure hundreds of the machines for manufacturing Apple's products. According to observers, maintaining control over suppliers was important. Apple's decision to manage a "closed ecosystem" enabled it to negotiate large discounts on components. This gave the company access to flexible manufacturing volume in the event demand was high, and savings on other supply chain costs such as air-freight.[17]

Apple engineers worked closely with suppliers to update manufacturing processes and technology. For example, new tooling equipment was designed to cut the MacBook's unibody shell. Apple's insistence on exclusivity and its high volume of purchases meant that competitors often had to wait for key components, such as screens. "To manufacture the iPad 2," for example, "Apple bought so many high-end drills to make the device's internal casing that other companies' wait time for the machines stretched from six weeks to six months, according to a manager at the drillmaker."[18] These delays had a material impact on competitors. In May 2005, news about Apple ordering DRAM chips sent Samsung's stock price tumbling in one day, erasing a staggering $10 billion of the electronics giant's market cap.[19]

For suppliers, Apple's high-volume orders and offers to invest in capital equipment had both benefits and drawbacks. While suppliers enjoyed profits due to the high volumes ordered by Apple, the latter expected detailed breakdowns of suppliers' costs for manufacturing labour, materials and even projected profit. Suppliers were also expected to keep two weeks of parts inventory in close proximity to assembly plants. In addition, the cost to carry parts was borne by suppliers as Apple stretched out its payables to as long as 90 days after the parts were used. [20]

Apple's offer to pay for machinery and its firm commitments to future supplier volume were not typical for the electronics industry, which traditionally preferred to negotiate the lowest possible combination of

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price and volume commitments per order. The following is an example of a deal negotiated by Apple with a key supplier:

> Apple struck a deal with GT Advanced Technologies Inc., a maker of furnace equipment that is used to produce sapphire materials that cover smartphone lenses and home buttons. Apple received an exclusivity agreement from GT Advanced for the furnaces in exchange for making a prepayment of $578 million. GT Advanced said it would pay Apple back over five years starting in 2015. The deal has "limited our ability to take additional" business, Thomas Gutierrez, GT Advanced's CEO, said in a conference call with analysts. GT Advanced said in its announcement that revenue from the division that includes the kinds of machines Apple is buying will increase to 80 per cent of the company's total business, predicted to be $600 million to $800 million, up from 31 per cent previously.[21]

To maintain their independence, some suppliers chose to decline Apple's orders and capital, realizing that Apple's negotiating tactics would leave them with slim profits. A major parts manufacturer declined to commit its manufacturing capacity to Apple's products, even refusing a $1 billion upfront payment from Apple. The manufacturer was worried that Apple's insistence on committed capacity and low prices would have an impact on sales to its other customers. [22]

Product Assembly

Final assembly of the iPhone 5 occurred in China, at Apple subcontractor Hon Hai Precision Industry Co., better known as Foxconn, at a cost to Apple of $8 per unit. Foxconn, founded in 1974, was an original design manufacturer for clients such as Apple, Sony, Nintendo, and BlackBerry. Based in Taiwan, it was the world's largest electronics manufacturer with 1.23 million workers in 2012. In 2012, Foxconn generated $2.7 billion in net income from $4.2 billion in revenues. Foxconn had factories in Asia, Europe, Mexico and South America. Apple's competitors, in contrast, tended to outsource production of their smartphones:

- In June 2011, it was reported that Nokia outsourced its Windows Phone handset production to Compal Electronics.[1]
- In December 2013, BlackBerry, in an attempt to turn around its business, outsourced its hardware production to Foxconn,[2]
- Even Samsung, a large conglomerate, announced in December 2013 that it would be outsourcing the production of its low-end smartphones.[3]

Several iPhone components required labour-intensive assembly operations with complex quality control processes. For example, Apple had run each iPhone camera module through a battery of tests before it could be inserted into an iPhone. One of the key tasks for subcontractors was coordinating the sourcing and hiring of the temporary labour used in testing and assembling individual components. For example, for a group of 24 companies with 28 plants in Malaysia that were supplying assembly services to Apple's component suppliers, receiving assembly orders meant that they had to focus efforts on hiring thousands

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[1] *www.slashgear.com/nokia-outsources-windows-phone-production-to-compal-tip-insiders-24161238/; accessed June 4, 2014.*

[2] *Will Connors, "At BlackBerry, Stock Jumps Despite Big Loss", The Wall Street Journal Online, December 20, 2013, http://online.wsj.com/news/articles/SB10001424052702303773704579269901455159052; accessed June 4, 2014.*

[3] *www.sammobile.com/2013/11/13/samsung-to-outsource-production-of-low-end-devices-focus-its-own-manufacturing-plants-on-premium-models/; accessed June 4, 2014.*

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of temporary workers. These firms looked to draw workers from developing Southeast Asian countries such as Indonesia, Cambodia, Mynamar, Vietnam and Nepal.

When the iPhone 5 forecasts were developed, one of Apple's top component manufacturers, Flextronics, put out a call for 1,500 additional temporary workers to assemble a camera component. Labour was hired via a network of recruiters and subagents, all of which were tasked with finding people on short notice. For a job that paid approximately $178 per month, temporary workers paid as much as $1,000 in fees — to recruiters. Flextronics arranged for workers to board scheduled flights from their home countries to Malaysia, where they were transported to the company compound. Housing was provided, and workers were expected to work 12-hour shifts per day. Flextronics accounted for the fluctuations in orders by hiring or terminating temporary workers as needed. In the example cited above, 4,500 temporary workers began assembling iPhone 5 camera components in October 2012.

But the workers were laid off in mid-January 2013, eliciting comments from the public that they had been unfairly treated. In response, Apple pointed to its supplier code of conduct, which had clear policies governing abusive practices such as harassment, involuntary labour and human trafficking.[23] Due to Apple's just-in-time supply chain, which placed significant responsibility on the shoulders of suppliers, component delays had an impact on Apple's inventory projections. Sharp Corp, a supplier of iPhone displays, notified Apple that its output had fallen behind schedule as it struggled with high costs and debt servicing obligations.[24] Finished components were consolidated at Foxconn's China factories, where thousands of workers assembled the components into iPhones.

Aside from the general labour required to test components and assemble devices, another critical advantage for Apple was that global suppliers provided engineers at a scale that its U.S. suppliers could not match. Apple's executives had estimated that about 8,700 industrial engineers were needed to oversee and guide the 200,000 assembly-line workers eventually involved in manufacturing iPhones. The company's analysts forecasted that it would take as long as nine months to find that many qualified engineers in the United States. In China, it took 15 days.

On the assembly side, managing a huge workforce and keeping to tight schedules was difficult. A Foxconn factory was closed in Taiyuan, China in September 2012, following a riot among its 2,000 employees. In the summer of 2013, Foxconn began restricting workers to nine hours of overtime per week.[25] To ensure that secrecy was maintained throughout the assembly process, Apple placed electronic monitors in select boxes of parts and followed the components remotely — from Cupertino — in case there were leaks.

Logistics

In 1997, Jobs' return brought Apple a renewed focus on revamping its supply chain management capabilities. That year, Apple was facing a $1 billion backlog of orders that frustrated the management team. The firm looked at innovative ways to speed up the supply chain, even using expensive air-freight when most computer firms were relying exclusively on shipments by sea. In 1998, Jobs even pre-purchased all available holiday air-freight, paying $50 million to ensure that Apple's new iMacs could be delivered to stores for the holiday sales rush. The move had the added benefit of shutting out rivals — such as Compaq Computer — from using air-freight as a transportation option. In fact, when it came time to ship its new iPod products in 2001, Apple discovered it was cheaper to ship them directly to consumers from its suppliers' assembly plants in China. [26]

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Apple relied on intermediate warehouses at UPS and Fedex and had its own warehouses in Elk Grove, California. It had to ensure that its many sales outlets — online stores, retail stores, direct sales force, wholesalers and retail network — had the product stock they needed according to the demand forecast.

In addition, the company had a reverse logistics system as well, encompassing the management of warranty claims, trade-ins and Apple's recycle and reuse program. Managing reverse logistics effectively contributed to Apple's success, both on a cost level and on a customer service experience level. Traditionally, when a customer sought to return an electronic product, he or she would have to bring it back to the store with a receipt, and the store would take the item back, issue a refund, then hold the presumably defective item until it could be delivered back to the manufacturer. In contrast, Apple allowed consumers to enter data about the defect on the Apple website, adding the unit's serial number to identify purchase details (including date of purchase, location and information about the customer).

Within half a day, Apple would send the customer an email indicating if the product was still under warranty and providing details about how it would be returned. Within 48 hours, a pre-addressed, pre-stamped box would arrive at the customer's door-step, sent by express parcel service. A shipping label and a receipt for the return were both included in the box, along with secure foam packaging and even packaging tape. By calling a central dispatch number, Apple's assigned courier — UPS, FedEx or DHL — would come and pick up the item directly from the customer's house or office.[27]

By providing rapid service through its reverse logistics function, Apple improved customer satisfaction, lowered the number of calls to its technical support services and eliminated the likelihood of customer error when processing a return (by using an incorrect address, for example). Getting the electronic product back into Apple's service depots allowed them to diagnose and return the item to the customer rapidly, or fix the issue and sell the refurbished product as an "Apple Certified. Good as New" product in its Apple Store.[28]

Apple's close management of its logistics system extended to packaging devices in plain boxes to "avoid detection," and monitoring "every handoff point — loading dock, airport, truck depot and distribution center — to make sure each unit was accounted for."[29]

Retail Experience

Apple had 424 retail stores in 16 countries around the world. In addition, its online Apple Store was available in 39 countries. The company's retail stores were typically located at high-traffic locations in quality shopping malls and urban shopping districts. By operating its own stores in desirable high-traffic locations, Apple was positioned to ensure a high-quality buying experience and attract new customers. The stores were designed to simplify and enhance the presentation and marketing of the company's products and related solutions. The retail stores employed experienced and knowledgeable personnel who provided product advice, service and training and offered a wide selection of third-party hardware, software, other accessories and peripherals that complemented Apple's products.

Apple could monitor product sales by store by the hour and it relied on this information to tweak its production forecasts on a daily basis. According to one article: "If it becomes clear a given part will run out, teams are deployed and given approval to spend millions of dollars on extra equipment to get around the bottleneck."[30]

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The company also invested in programs to enhance reseller sales by placing high-quality Apple fixtures, merchandising materials and other resources within selected third-party reseller locations. Through the Apple Premium Reseller Program, certain third-party resellers focused on the Apple platform by providing a high level of product expertise, integration and support services. A side-by-side comparison of Apple's iPhone 5 with devices from key competitors can be found in Exhibit 8.

Looking Forward

At the end of fiscal year 2013, Apple had $171 billion in sales, with market capitalization of $457 billion.[31] There were rumours that Apple was going to announce a stock split, something it had only done three times in its history: on June 15, 1987, on June 21, 2000 and on February 28, 2005.[32]

Jessica noticed that Apple continued to invest in its supply chain. At the end of 2013, Apple was investing $10.5 billion in new technology — including assembly robots and milling machines — to ensure that its products could be made more quickly and more cost effectively. In fact, Apple's supply chain was ranked number one in a list prepared by Gartner Group, an analytics firm (see Exhibit 9). Selected financial information from three competitors – Samsung, BlackBerry and Nokia - is shown in Exhibit 10. One observer noted that:

> Apple is increasingly striking exclusive machinery deals . . . outspending peers on the tools that it then places in the factories of its suppliers, many of which are in Asia. 'Their designs are so unique that you have to have a very unique manufacturing process to make it,' said Muthuraman Ramasamy, an analyst with consulting firm Frost & Sullivan, who has studied the use of the machinery. 'Apple has so much cash that they can invest in cutting-edge, world-class machinery that is typically used for aerospace and defense.'[33]

Finally, Jessica pored over financial information from 1996 to 2013, as well as important segment information (see Exhibits 11 and 12), before summarizing her notes on Apple's supply chain. Then she started to prepare a one-page outline of the pros and cons for her presentation to Phillip Duchene.

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EXHIBIT 1: APPLE'S PRODUCTS

iPhone

The iPhone, with the iPhone 5s and 5c as the latest versions, combined a phone, photo and video camera, music player and Internet-accessible device. Apple's iPhone segment generated $91.3 billion in sales in 2013, up 16 per cent from 2012. The iPhone had been launched as a high-end product and was available at a premium price. Apple's iPhone 5c, however, was the first version of the iPhone targeted at the entry-level market. In 2013, Apple sold 150.3 million iPhones, up from 125 million units in 2012.

iPad

The iPad was Apple's tablet computer, with the fifth generation iPad Air launched in October 2013. While many competitors had launched tablet computers in the past decade, Apple's iPad, featuring a touch-screen interface, was the first tablet computer to gain traction in the market. Apple's iPad segment generated $32 billion in sales in 2013, up 3 per cent from 2012. The number of iPad units sold rose 22 per cent from 58.3 million to 71 million, yet this segment's revenues were stagnating due to Apple's launch of smaller, less expensive iPad models over the years.

Mac

Apple's Mac computers had Intel microprocessors and their own OS X operating system. Apple produced both desktop and laptop computers. Mac revenues fell 7 per cent to $21.5 billion in 2013. Unit sales fell 10 per cent to 16.3 million in 2013 from 18.2 million in 2012.

iPod

The firm's portable digital music players combined a flash-memory player with features such as a photo and video camera, and allowed consumers to purchase content from its iTunes store. Sales of the iPod had been declining for the past few years, with segment revenues down 21 per cent in 2013 to $4.4 billion, and unit sales down 25 per cent to 26.4 million devices.

iTunes and the iTunes Store

Consumers could purchase and download apps, music and TV shows from the iTunes store. The iTunes store was integrated with Apple's App Store and iBooks Store, which featured eBook downloads. The iTunes software and services segment generated revenues of $16.1 billion in 2013, up 25 per cent from 2012. By January 2013, Apple customers had downloaded 40 billion apps and Apple had made $7 billion in payments to third-party developers.[34]

Mac App Store and iCloud

Computer users could download Mac apps from the Mac App store and iCloud was Apple's cloud service, where users could keep their personal information online.

Source: Apple annual reports and SEC filings.

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EXHIBIT 2: IPHONE VERSIONS AND FEATURES

Model		iPhone (1st generation)	iPhone 3G	iPhone 3GS	iPhone 4	iPhone 4S	iPhone 5	iPhone 5C	iPhone 5S
Initial operating system		iPhone OS 1.0	iPhone OS 2.0	iPhone OS 3.0	iOS 4.0 (GSM) iOS 4.2.5 (CDMA)	iOS 5.0	iOS 6.0	iOS 7.0	
Display		3.5 in (89 mm), 3:2 aspect ratio, scratch-resistant[7] glossy glass covered screen, 262,144-color (18-bit) TN LCD, 480 × 320 px (HVGA) at 163 ppi, 200:1 contrast ratio		In addition to prior, features a fingerprint-resistant oleophobic coating,[242] and 262,144-color (18-bit) TN LCD with hardware spatial dithering[9]	3.5 in (89 mm), 3:2 aspect ratio, aluminosilicate glass covered 16,777,216-color (24-bit) IPS LCD screen, 960 × 640 px at 326 ppi, 800:1 contrast ratio, 500 $^{cd}/_{m^2}$ max brightness		4 in (100 mm), 71:40 aspect ratio, 1136 x 640 px screen resolution at 326 ppi		
Storage		4, 8 or 16 GB	8 or 16 GB	8, 16 or 32 GB		8, 16, 32 or 64 GB	16, 32 or 64 GB	16 or 32 GB	16, 32 or 64 GB
Processor		620 MHz (underclocked to 412 MHz) Samsung 32-bit RISC ARM (32 KB L1) 1176JZ(F)-S v1.0[243][244]		833 MHz (underclocked to 600 MHz) ARM Cortex-A8[11][245] Samsung S5PC100[11][246] (64 KB L1 + 256 KB L2)	1 GHz (underclocked to 800 MHz) ARM Cortex-A8 Apple A4 (SoC)[247]	1 GHz (underclocked to 800 MHz) dual-core ARM Cortex-A9 Apple A5 (SoC)[248]	1.3 GHz dual-core Apple-designed ARMv7s Apple A6[249]		1.3 GHz dual-core Apple-designed ARMv8-A 64-bit Apple A7 with M7 motion coprocessor[250]
Memory		128 MB LPDDR DRAM[252] (137 MHz)		256 MB LPDDR DRAM[11][245] (200 MHz)	512 MB LPDDR2 DRAM[253][254][255][256][257] (200 MHz)		1 GB LPDDR2 DRAM[258][259]		1 GB LPDDR3 DRAM[260]
Cameras	Back	2 MP f/2.8		3 MP photos, VGA (480p) video at 30 fps, macro focus	5 MP photos, f/2.8, 720p HD video (30 fps), Back-illuminated sensor, LED flash	8 MP photos, f/2.4, 1080p HD video (30 fps), Back-illuminated sensor, face detection, video stabilization, panorama	8 MP photos with 1.4µ pixels, f/2.4, 1080p HD video (30 fps), Infrared cut-off filter, Back-illuminated sensor, face detection, video stabilization, panorama and ability to take photos while shooting videos		8 MP photos with 1.5µ pixels, f/2.2 aperture, 1080p HD video (30 fps) or 720 HD video slo-mo video at 120 fps, improved video stabilization, True Tone flash, Infrared cut-off filter, Back-illuminated sensor, face detection, panorama, ability to take photos while shooting videos and Burst mode
	Front	No			VGA (0.3 MP) photos and videos (30 fps)		1.2 MP photos with 1.75µ pixels, 720p HD video (30 fps), Back-illuminated sensor	1.2 MP photos with 1.9µ pixels, 720p HD video (30 fps), Back-illuminated sensor	
Materials		Aluminum, glass, steel, and black plastic	Glass, plastic, and steel; black or white (white not available for 8 GB models)		Black or white aluminosilicate glass and stainless steel		Black with anodized aluminium "Slate" metal or white with	White, pink, yellow, blue or green polycarbonate	Silver (white front with "Silver" aluminium metal back), Space Gray (Black front with anodized aluminium
Released		4, 8 GB: June 29, 2007 16 GB: February 5, 2008	All models: July 11, 2008	16, 32 GB: June 19, 2009 8 GB black: June 24, 2010	16, 32 GB: June 24, 2010 CDMA: February 10, 2011 White: April 28, 2011 8 GB: October 14, 2011	16, 32, 64 GB: October 14, 2011 8 GB: September 20, 2013	All models: September 21, 2012	All models: September 20, 2013	
Discontinued		4 GB: September 5, 2007 8, 16 GB: July 11, 2008	16 GB: June 8, 2009 8 GB black: June 7, 2010	16, 32 GB: June 24, 2010 8 GB black: September 12, 2012	16, 32 GB: October 4, 2011 8 GB: September 10, 2013	32, 64 GB: September 12, 2012 16 GB: September 10, 2013 8 GB: In Production	All models: September 10, 2013	In Production	

Source: Apple annual reports and SEC filings.

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EXHIBIT 3: IPHONE SALES BY QUARTER

Global iPhone Sales by FY Quarter (in MMs)		
Q3	2007	0.270
Q4	2007	1.190
Q1	2008	2.315
Q2	2008	1.703
Q3	2008	0.717
Q4	2008	6.890
Q1	2009	4.363
Q2	2009	3.793
Q3	2009	5.208
Q4	2009	7.367
Q1	2010	8.737
Q2	2010	8.752
Q3	2010	8.398
Q4	2010	14.102
Q1	2011	16.240
Q2	2011	18.650
Q3	2011	20.340
Q4	2011	17.070
Q1	2012	37.040
Q2	2012	35.100
Q3	2012	26.000
Q4	2012	26.900
Q1	2013	47.800
Q2	2013	37.400
Q3	2013	31.200
Q4	2013	33.800
Q1	2014	51.000

Source: Apple annual reports and SEC filings.

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EXHIBIT 4: IPHONE SUPPLIERS OF 97 PER CENT OF APPLE'S IPHONE PRODUCT MATERIALS

Apple Suppliers 2011					
1	AACTechnologies Holdings Inc.	53	Daishinku Corporation (KDS)	105	Interflex Co.,Ltd.
2	AcBel Polytech Inc.	54	Darfon Electronics Corporation	106	International Rectifier Corporation
3	Acument GlobalTechnologies	55	Delta Electronics Inc.	107	Intersil Corporation
4	Advanced Micro Devices,Inc.	56	Diodes Inc.	108	Inventec Appliances Corporation
5	AmperexTechnology Ltd.	57	Dynapack InternationalTechnology	109	Jabil Circuit,Inc.
6	Amphenol Corporation	58	Elpida Memory,Inc.	110	Japan Aviation Electronics Industry,Ltd.
7	Analog Devices,Inc.	59	Emerson Electric Co.	111	Jin Li Mould Manufacturing Pte Ltd.
8	Anjie Insulating Material Co.,Ltd.	60	ES Power Co.,Ltd.	112	Kaily Packaging Pte Ltd.
9	Asahi Kasei Corporation	61	Fairchild Semiconductor International	113	Kenseisha Sdn.Bhd.
10	AU Optronics Corporation	62	FasteningTechnology Pte Ltd.	114	Knowles Electronics
11	AustriaTechnologie & Systemtechnik AG	63	FLEXium Interconnect,Inc.	115	Kunshan Changyun Electronic Industry
12	austriamicrosystems	64	Flextronics International Ltd.	116	LairdTechnologies
13	AvagoTechnologies Ltd.	65	Fortune Grand Enterprise Co.,Ltd.	117	Lateral Solutions Pte Ltd.
14	Brady Corporation	66	Foster Electric Co.,Ltd.	118	Lens OneTechnology (Shenzhen) Co.,Ltd.
15	Brilliant International Group Ltd.	67	Fuji Crystal Manufactory Ltd.	119	Lg Chem,Ltd.
16	Broadcom Corporation	68	Fujikura Ltd.	120	Lg Display Co.,Ltd.
17	Broadway Industrial Group Ltd.	69	Grand UprightTechnology Ltd.	121	Lg Innotek Co.,Ltd.
18	Byd Company Ltd.	70	Gruppo Dani S.p.A.	122	LinearTechnology Corporation
19	CareerTechnology (MFG.) Co.,Ltd.	71	Gruppo Peretti	123	Lite-OnTechnology Corporation
20	CatcherTechnology Co.,Ltd.	72	Hama Naka Shoukin Industry Co.,Ltd.	124	Longwell Company
21	Cheng Loong Corporation	73	Hanson Metal Factory Ltd.	125	LSI Corporation
22	Cheng Uei Precision Industry Co.,Ltd.(Foxlink)	74	Heptagon Advanced Micro-Optics Pte Ltd.	126	Luen Fung Commercial Holdings Ltd.
23	Chimei Innolux Corporation	75	Hi-P International Ltd.	127	Macronix International Co.,Ltd.
24	Coilcraft,Inc.	76	Hitachi-LG Data Storage	128	Marian,Inc.
25	Compeq Manufacturing Co.,Ltd.	77	Hon Hai Precision Industry Co.,Ltd.(Foxconn)	129	MarvellTechnology Group Ltd.
26	Cosmosupplylab Ltd.	78	Hynix Semiconductor Inc.	130	Maxim Integrated Products,Inc.
27	CymMetrik (Shenzhen) Printing Co.	79	Ibiden Co.,Ltd.	131	Meiko Electronics Co.,Ltd.
28	Cyntec Co.,Ltd.	80	InfineonTechnologies AG	132	MicrochipTechnology Inc.
29	Cypress Semiconductor Corporation	81	Intel Corporation	133	MicronTechnology,Inc.
30	Mitsumi Electric Co.,Ltd.	82	Ri-Teng Computer Accessory Co.,Ltd.	134	Suzhou Panel Electronic Co.,Ltd.
31	Molex Inc.	83	ROHM Co.,Ltd.	135	Taiyi PrecisionTech Corporation
32	Multek Corporation	84	Rubycon Corporation	136	TaiyoYuden Co.,Ltd.
33	Multi-Fineline Electronix,Inc.	85	Samsung Electro-Mechanics Co.,Ltd.	137	TDK Corporation
34	Murata Manufacturing Co.,Ltd.	86	Samsung Electronics Co.,Ltd.	138	Texas Instruments Inc.
35	NanYa Printed Circuit Board Corporation	87	SanDisk Corporation	139	Tianjin Lishen Battery Joint-Stock Co.,Ltd.
36	NEC Corporation	88	SANYO Electric Co.,Ltd.	140	Toshiba Corporation
37	Nippon Mektron,Ltd.	89	SDI Corporation	141	Toshiba Mobile Display Co.,Ltd.
38	NishokuTechnology Inc.	90	SeagateTechnologies	142	Toyo Rikagaku Kenkyusho Co.,Ltd.
39	NVIDIA Corporation	91	Seiko Epson Corporation	143	TPK Holding Co.,Ltd.
40	NXP Semiconductor N.V.	92	Seiko Group	144	TripodTechnology Corporation
41	ON Semiconductor Corporation	93	Sharp Corporation	145	TriQuint Semiconductor
42	Optrex Corporation	94	Shimano Inc.	146	Triumph Lead ElectronicTech Co.
43	Oriental Printed Circuits Ltd.	95	Shin Zu Shing Co.,Ltd.	147	TXC Corporation
44	Panasonic Corporation	96	SilegoTechnology Inc.	148	Unimicron Corporation
45	PCH International	97	SimploTechnology Co.,Ltd.	149	UnisteelTechnology Ltd.
46	Pegatron Corporation	98	Skyworks Solutions Inc.	150	Universal Scientific Industrial Co.,Ltd.
47	Pioneer Material PrecisionTech	99	Sony Corporation	151	Vishay Intertechnology
48	Prent Corporation	100	Standard Microsystems Corporation	152	Volex plc
49	Primax Electronics Ltd.	101	STMicroelectronics	153	Western Digital Corporation
50	Qualcomm Incorporated	102	Sumida Corporation	154	Wintek Corporation
51	Quanta Computer Inc.	103	Sumitomo Electric Industries,Ltd.	155	Yageo Corporation
52	Renesas Electronics Corporation	104	SunrexTechnology Corporation	156	Zeniya Aluminum Engineering,Ltd.

Source: Apple Inc., www.apple.com/supplier-responsibility/, accessed October 4, 2013.

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EXHIBIT 5: LIST OF APPLE'S KEY SUPPLIERS

Firm	Location	Part or service supplied
Samsung	Singapore	CPU and Video Chips
Infineon	Singapore	Baseband Communications
Primax Electronics	Taiwan	Digital Camera Modules
Foxconn International	Taiwan	Internal Circuitry
Entery Industrial	Taiwan	Connectors
Cambridge Silicon	Taiwan	Bluetooth
Umicron Technology	Taiwan	Circuit Board
Catcher Technology	Taiwan	Casings
Broadcomm	U.S.	Touch Screen Controls
Marvell	U.S.	802.11 Specific Parts
Foxconn	China	Assembly and Inventory

EXHIBIT 6: DISTRIBUTION OF VALUE FOR IPHONE, 2010

Cost of inputs: China labor	1.8%
Cost of inputs: Non-China labor	3.5%
Cost of inputs: materials	21.9%
Unidentified profits:	5.3%
South Korea profits	4.7%
Japan profits	0.5%
Taiwan profits	0.5%
E.U. profits	1.1%
Non-Apple U.S. profits	2.4%
Apple profits	58.5%

Source: Kenneth L. Kraemer, Greg Linden and Jason Dedrick, "Capturing Value in Global Networks: Apple's iPad and iPhone", July 2011, page 5. From "pcic.merage.uci.edu/papers/2011/Value_iPad_iPhone.pdf." Note that "Apple Profits" are gross margins to Apple and suppliers' "profits" are revenues to that supplier. Amounts do not add up to 100 per cent due to rounding.

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EXHIBIT 7: IPHONE 5 – ESTIMATED BILL OF MATERIALS (2012)

	iPhone 5 Model		
Components/Hardware Elements	**16 GB**	**32 GB**	**64 GB**
Pricing without Contract	$ 649	$ 749	$ 849
Total Bill of Materials Cost	$ 199	$ 209	$ 230
Manufacturing Cost	$ 8.00	$ 8.00	$ 8.00
Bill of Materials and Manufacturing	$ 207	$ 217	$ 238
Major Cost Drivers			
Memory			
NAND Flash	$ 10.40	$ 20.80	$ 41.60
DRAM	$ 10.45	$ 10.45	$ 10.45
Display and Touchscreen	$ 44.00	$ 44.00	$ 44.00
Processor	$ 17.50	$ 17.50	$ 17.50
Camera(s)	$ 18.00	$ 18.00	$ 18.00
Wireless Section - BB/RF/PA	$ 34.00	$ 34.00	$ 34.00
User Interface and sensors	$ 6.50	$ 6.50	$ 6.50
Bluetooth/WLAN	$ 5.00	$ 5.00	$ 5.00
Power Management	$ 8.50	$ 8.50	$ 8.50
Battery	$ 4.50	$ 4.50	$ 4.50
Mechanical/Electro-Mechanical	$ 33.00	$ 33.00	$ 33.00
Box Contents	$ 7.00	$ 7.00	$ 7.00

Source: HIS iSuppli Research, September 2012. https://technology.ihs.com/410378/iphone-5-carries-199-bom-virtual-teardown-reveals, accessed January 3, 2014.

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EXHIBIT 8: IPHONE AND COMPETITORS

	iPhone 5	Samsung Galaxiy S III	Droid RAZR HD	Nokia Lumia 920
Screen Size	4 inches	4.8 inches	4.7 inches	4.5 inches
Resolution	1,136 x 640	1,280 x 720	1,280 x 720	1,280 x 768
Weight	3.9 oz	4.7 oz	5.1 oz	6.5 oz
CPU	Dual-core Apple A6	Dual-core 1.5GHz Snapdragon S4 (in the U.S.)	Dual-core 1.5GHz Snapdragon S4	Dual-core 1.5 GHz Snapdragon S4
Storage	16GB, 32GB or 64GB, no card slot	16GB, 32GB or 64GB +microSD slot	12GB+microSD slot	32GB, no card slot
Connectors	Apple Lightning	microUSB	microUSB	microUSB
Operating System	iOS 6	Android 4.0.4 (Ice Cream Sandwich)	Android 4.0.4 (Ice Cream Sandwich)	Microsoft Windows Phone 8
Battery	225 hours standby, 8 hours talk time (3G)	790 hours standby, 11:40 hours talk time (3G)	TBA	300 hours standby, 10 hours talk time (3G)
Camera	8MP, 3264x2448 pixels, autofocus, LED flash	8MP, 3264x2448 pixels, autofocus, LED flash	8MP, 3264x2448 pixels, autofocus, LED flash	8MP, 3264x2448 pixels, optical image stabilization, autofocus, dual-LED flash
Networking	Wi-Fi, 2G, 3G, 4G LTE	Wi-Fi, 2G, 3G, 4G LTE	Wi-Fi, 2G, 3G, 4G LTE	Wi-Fi, 2G, 3G, 4G LTE
Price	$199 for 16GB, $299 for 32GB, $399 for 64GB; avail. Sept. 21	$199.99 + $35 carrier fee	$199 (estimated, launch end of 2012)	TBA, launch Q4 2012

Source: http://mashable.com/2012/09/12/iphone-5-compared/, accessed April 3, 2014.

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EXHIBIT 9: SUPPLY CHAIN RANKINGS BY GARTNER GROUP

Rank	Company	Peer Opinion[1] (172 voters) (25%)	Gartner Opinion[1] (33 voters) (25%)	Three-Year Weighted ROA[2] (25%)	Inventory Turns[3] (15%)	Three-Year Weighted Revenue Growth[4] (10%)	Composite Score[5]
1	Apple	3,203	470	22.3%	82.7	52.5%	9.51
2	McDonald's	1,197	353	15.8%	147.5	5.9%	5.87
3	Amazon.com	3,115	475	1.9%	9.3	33.6%	5.86
4	Unilever	1,469	522	10.5%	6.5	9.0%	5.04
5	Intel	756	515	15.6%	4.2	11.4%	4.97
6	P&G	1,901	493	8.6%	5.8	3.6%	4.91
7	Cisco Systems	1,167	517	8.5%	11.2	7.8%	4.67
8	Samsung Electronics	1,264	298	11.6%	18.5	15.7%	4.35
9	The Coca-Cola Co.	1,779	278	11.7%	5.5	14.0%	4.33
10	Colgate-Palmolive	794	324	18.9%	5.2	3.6%	4.27
11	Dell	1,409	342	6.2%	30.7	-0.6%	4.05
12	Inditex	745	221	18.0%	4.2	13.4%	3.85
13	Wal-Mart Stores	1,629	282	8.8%	8.1	4.9%	3.79
14	Nike	955	236	14.1%	4.2	10.6%	3.62
15	Starbucks	808	159	16.5%	4.8	11.5%	3.41
16	PepsiCo	810	314	8.6%	7.8	10.5%	3.41
17	H&M	399	41	28.2%	3.7	6.7%	3.22
18	Caterpillar	714	247	5.8%	2.8	23.4%	2.91
19	3M	999	105	13.3%	4.2	6.9%	2.87
20	Lenovo Group	397	211	2.5%	22.2	29.8%	2.75
21	Nestlé	679	112	13.3%	5.1	-0.6%	2.51
22	Ford Motor	552	231	5.7%	15.1	3.1%	2.51
23	Cummins	74	139	13.3%	5.3	13.5%	2.48
24	Qualcomm	122	45	12.7%	8.5	25.9%	2.37
25	Johnson & Johnson	730	144	9.6%	2.9	3.3%	2.35

Notes:
1. Gartner Opinion and Peer Opinion: Based on each panel's forced-rank ordering against the definition of "DDVN orchestrator"
2. ROA: ((2012 net income / 2012 total assets) × 50%) + ((2011 net income / 2011 total assets) × 30%) + ((2010 net income / 2010 total assets) × 20%)
3. Inventory Turns: 2012 cost of goods sold / 2012 quarterly average inventory
*4. Revenue Growth: ((change in revenue 2012-2011) * 50%) + ((change in revenue 2011-2010) * 30%) + ((change in revenue 2010-2009) × 20%)*
*5. Composite Score: (Peer Opinion * 25%) + (Gartner Research Opinion * 25%) + (ROA * 25%) + (Inventory Turns × 15%) + (Revenue Growth × 10%)*
6. 2012 data used where available. Where unavailable, latest available full-year data used. All raw data normalized to a 10-point scale prior to composite calculation. "Ranks" for tied composite scores are determined using next decimal point comparison.

Source: Debra Hofman, Stan Aronow, Kimberly Niles, "The Gartner Supply Chain Top 25 for 2013", The Gartner Group, 22 May 2013, pages 5-6.

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EXHIBIT 10: KEY COMPARATIVE INFORMATION FOR SAMSUNG, BLACKBERRY AND NOKIA

Samsung					
In U.S. dollars	**FY 2009**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**
Net sales	117,821	137,905	142,403	188,351	217,462
Cost of sales	81,756	91,562	96,785	118,621	130,934
Gross margin	36,065	46,343	45,618	69,730	86,528
Research & development expense	6,384	8,115	8,613	NA	NA
Net income (loss)	8,436	14,400	11,853	22,333	28,978
Total shareholders' equity	63,131	79,685	87,896	113,777	142,649
Accounts receivable, net	15,400	17,081	18,885	22,348	23,761
Accounts payable	7,117	957	884	1,092	1,002
Inventories	8,504	11,919	13,564	16,622	18,195
Land & buildings	37,648	47,236	53,546	64,142	71,789
Cash equivalents	19,336	22,759	25,979	39,972	57,751
Total assets	96,954	119,764	134,315	169,589	203,562

BlackBerry					
In U.S. dollars	**FY 2009**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**
Net sales	14,953	19,907	18,435	11,073	6,813
Cost of sales	8,369	11,082	11,856	7,639	6,856
Gross margin	6,584	8,825	6,579	3,434	(43)
Research & development expense	965	1,351	1,559	1,509	1,286
Net income (loss)	2,457	3,411	1,164	(646)	(5,873)
Total shareholders' equity	7,603	8,938	10,100	9,460	3,625
Accounts receivable, net	2,594	3,955	3,062	2,353	972
Accounts payable	616	832	744	1,064	474
Inventories	622	618	1,027	603	244
Land & buildings	1,957	2,504	2,748	2,395	942
Cash equivalents	1,911	2,121	1,774	2,654	2,529
Total assets	10,204	12,875	13,731	13,165	7,552

Nokia					
In U.S. dollars	**FY 2009**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**
Net sales	59040	56809	50004	39773	17497
Cost of sales	39933	39655	35363	28715	10138
Gross margin	19107	17154	14641	11058	7359
Research & development expense	8512	7847	7259	6303	3606
Net income (loss)	375	1797	-1925	-4994	-1017
Total shareholders' equity	21247	21723	18000	12452	9169
Accounts receivable, net	11497	10131	9288	7316	3994
Accounts payable	7131	8165	7155	5792	2536
Inventories	2687	3377	3014	2027	1107
Land & buildings	2690	2615	2383	1886	779
Cash equivalents	1645	2611	2531	4618	5061
Total assets	51483	52361	46829	39474	34681

Source: Mergent Database; accessed April 3, 2014.

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EXHIBIT 11: APPLE'S HISTORICAL FINANCIAL INFORMATION (SELECTED)

	FY 2013	FY 2012	FY 2011	FY 2010	FY 2009	FY 2008	FY 2007	FY 2006	FY 2005
	9/28/2013	9/29/2012	9/24/2011	9/25/2010	9/26/2009	9/27/2008	9/29/2007	9/30/2006	9/24/2005
Net sales	170,910,000	156,508,000	108,249,000	65,225,000	36,537,000	32,479,000	24,006,000	19,315,000	13,931,000
Cost of sales	106,606,000	87,846,000	64,431,000	39,541,000	23,397,000	21,334,000	15,852,000	13,717,000	9,888,000
Gross margin	64,304,000	68,662,000	43,818,000	25,684,000	13,140,000	11,145,000	8,154,000	5,598,000	4,043,000
Research & development expense	4,475,000	3,381,000	2,429,000	1,782,000	1,333,000	1,109,000	782,000	712,000	534,000
Net income (loss)	37,037,000	41,733,000	25,922,000	14,013,000	5,704,000	4,834,000	3,496,000	1,989,000	1,335,000
Total shareholders' equity	123,549,000	118,210,000	76,615,000	47,791,000	27,832,000	21,030,000	14,532,000	9,984,000	7,466,000
Accounts receivable, net	13,102,000	10,930,000	5,369,000	5,510,000	3,361,000	2,422,000	1,637,000	1,252,000	895,000
Accounts payable	22,367,000	21,175,000	14,632,000	12,015,000	5,601,000	5,520,000	4,970,000	3,390,000	1,779,000
Inventories	1,764,000	791,000	776,000	1,051,000	455,000	509,000	346,000	270,000	165,000
Land & buildings	3,309,000	2,439,000	2,059,000	1,471,000	955,000	810,000	762,000	626,000	361,000
Cash equivalents	146,761,000	121,251,000	81,570,000	51,011,000	33,992,000	24,490,000	15,386,000	10,110,000	8,261,000
Total assets	207,000,000	176,064,000	116,371,000	75,183,000	53,851,000	39,572,000	25,347,000	17,205,000	11,551,000
Full-time employees	80,300	72,800	60,400	46,600	34,300	32,000	21,600	17,787	14,800

	FY 2004	FY 2003	FY 2002	FY 2001	FY 2000	FY 1999	FY 1998	FY 1997	FY 1996
	9/25/2004	9/27/2003	9/28/2002	9/29/2001	9/30/2000	9/25/1999	9/25/1998	9/26/1997	9/27/1996
Net sales	8,279,000	6,207,000	5,742,000	5,363,000	7,983,000	6,134,000	5,941,000	7,081,000	9,833,000
Cost of sales	6,020,000	4,499,000	4,139,000	4,128,000	5,817,000	4,438,000	4,462,000	5,713,000	8,865,000
Gross margin	2,259,000	1,708,000	1,603,000	1,235,000	2,166,000	1,696,000	1,479,000	1,368,000	968,000
Research & development expense	489,000	471,000	446,000	430,000	380,000	314,000	303,000	485,000	604,000
Net income (loss)	276,000	69,000	65,000	-25,000	786,000	601,000	309,000	-1,045,000	-816,000
Total shareholders' equity	5,076,000	4,223,000	4,095,000	3,920,000	4,107,000	3,104,000	1,642,000	1,200,000	2,058,000
Accounts receivable, net	774,000	766,000	565,000	466,000	953,000	681,000	955,000	1,035,000	1,496,000
Accounts payable	1,451,000	1,154,000	911,000	801,000	1,157,000	812,000	719,000	685,000	791,000
Inventories	101,000	56,000	45,000	11,000	33,000	20,000	78,000	437,000	662,000
Land & buildings	351,000	350,000	342,000	337,000	324,000	323,000	338,000	453,000	480,000
Cash equivalents	5,464,000	4,566,000	4,337,000	4,336,000	4,027,000	3,226,000	2,300,000	1,459,000	1,745,000
Total assets	8,050,000	6,815,000	6,298,000	6,021,000	6,803,000	5,161,000	4,289,000	4,233,000	5,364,000
Full-time employees	11,695	10,912	10,211	9,603	8,568	6,960	6,658	8,437	NA

Source: Mergent Database; accessed April 3, 2014.

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EXHIBIT 12: APPLE'S SEGMENT INFORMATION

	2013	Change	2012	Change	2011
Net Sales by Operating Segment:					
Americas	$62,739	9%	$57,512	50%	$38,315
Europe	37,883	4%	36,323	31%	27,778
Greater China (a)	25,417	13%	22,533	78%	12,690
Japan	13,462	27%	10,571	94%	5,437
Rest of Asia Pacific	11,181	4%	10,741	8%	9,902
Retail	20,228	7%	18,828	33%	14,127
Total net sales	$170,910	9%	$156,508	45%	$108,249
Net Sales by Product:					
iPhone (b)	$91,279	16%	$78,692	71%	$45,998
iPad (b)	31,980	3%	30,945	61%	19,168
Mac (b)	21,483	-7%	23,221	7%	21,783
iPod (b)	4,411	-21%	5,615	-25%	7,453
iTunes, software and services (c)	16,051	25%	12,890	38%	9,373
Accessories (d)	5,706	11%	5,145	15%	4,474
Total net sales	$170,910	9%	$156,508	45%	$108,249
Unit Sales by Product:					
iPhone	150,257	20%	125,046	73%	72,293
iPad	71,033	22%	58,310	80%	32,394
Mac	16,341	-10%	18,158	9%	16,735
iPod	26,379	-25%	35,165	-17%	42,620

Source: Apple 2013 10-K filing, page 27.

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ENDNOTES

[1] *This case has been written on the basis of published sources only. Consequently, the interpretation and perspectives presented in this case are not necessarily those of Apple Inc. or any of its employees.*
[2] *http://blogs.vancouversun.com/2012/09/24/iphone-5-sold-out-apple-stores-have-stock-other-retailers-out-of-luck/, accessed April 3, 2014.*
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[14] *www.slideshare.net/Xelal/apple-logistics; accessed April 3, 2014.*
[15] *Apple 10-K report 2013, page 7. http://investor.apple.com/SECFilingNav.cfm?FilingID=1193125-13-416534&CIK, accessed April 3, 2014.*
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[17] *Adam Satariano and Peter Burrows, "Apple's Supply-Chain Secret? Hoard Lasers," Businessweek, November 3, 2011.*
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[19] *www.webpronews.com/samsung-market-value-drops-10-billion-on-apple-news-2012-05, accessed April 3, 2014.*
[20] *Cam Simpson, op. cit.*
[21] *Adam Satariano, op. cit.*
[22] *Cam Simpson, op. cit.*
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[24] *Ibid.*
[25] *Paul Mozur, "Life Inside Foxconn's Facility in Shenzhen," China Realtime Report, The Wall Street Journal, December 19, 2012, accessed April 3, 2014.*
[26] *Cam Simpson, op. cit.*
[27] *www.scdigest.com/assets/newsViews/09-01-06-1.php?cid=2165, accessed April 3, 2014.*
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[30] *Ibid.*
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