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APPLE: HOW TO GROW ON CHINESE SOIL

Ten years after the game-changing launch of the iPhone, the long-anticipated iPhone 8 was supposed to give Apple an opportunity to prove its creative genius once again and resurrect its dominance.

The problem was particularly acute in China, Apple's second-largest (and the world's largest) market, accounting for roughly a third of global smartphone shipments. As Chinese manufacturers vied for global dominance, Apple dropped to fifth place in China when iPhone shipments fell 23% in 2016.¹ Chinese companies such as Huawei, Oppo, Vivo and Xiaomi were swiftly turning into disruptive challengers, not only through product innovation, but perhaps more importantly, through innovative business models and strategies.²

Despite a weak 2016, Apple's share price soared to a record high for the fourth month running in May 2017, breaking the US\$800 billion market cap record and remaining on the uptrend. That put Apple's market capitalization ahead of Alphabet (Google's parent company), Microsoft and Exxon Mobile [see **Exhibit 1**]. The high share price was partly attributed to purchases of Apple stock by Berkshire Hathaway (Warren Buffet's investment vehicle),³ and positive reception of rumours about the iPhone 8.

Apple had embarked on a diversification program – it had invested in solar-powered energy systems, wind turbine technology and self-driving vehicles (and had a potential venture in the works with Didi, the company that beat Uber in China).

Globally, 2017Q2 brought a 5% year-on-year revenue increase for Apple, except in Greater China, the only region which experienced a 14% year-on-year revenue decline⁴ [see **Exhibits**

¹ Mayo, B. (6 February 2017) "Annual Apple iPhone sales fall for the first time in China, local brands dominate," *9to5Mac*, <https://9to5mac.com/2017/02/06/annual-apple-iphone-sales-fall-for-the-first-time-in-china-local-brands-dominate/> (accessed April 9, 2017).

² Fischer, B. and Simon D. (8 July 2016) "How Chinese Companies Disrupt Through Business Model Innovation," *Harvard Business Review*, <https://hbr.org/2016/07/how-chinese-companies-disrupt-through-business-model-innovation> (accessed 1 March 2017).

³ Sienko, A. (10 May 2017) "Wycena Apple przekroczyła psychologiczną barierę. Tak dobrze nie było nawet w czasach wielkich premier Jobsa," *Inn Business*, <http://innpoland.pl/134777.wycena-apple-przekroczyla-psychologiczna-bariere-tak-dobrze-nie-byla-nawet-w-czasach-wielkich-premier-jobsa> (accessed 12 May 2017).

⁴ Hibben, M. (4 May 2017) "Apple's China Problem," *Seeking Alpha*, https://seekingalpha.com/article/4069463-apples-china-problem?app=1&auth_param=muvpr:1cgngn:3644e8b6ff53622ad45a068bef8eec86&uprof=14&dr=1 (accessed 11 May 2017).

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2 and 3]. It was not clear how Apple could reposition itself to sustain the pushback of Chinese brands while also exploring strategic new pastures, all on the back of potentially increased friction in Sino-U.S. economic relations.

The Company

Tech consultant Tim Bajarin wrote, “When Apple first launched the iPhone in 2007, Phil Schiller, now the company’s senior vice president of marketing, showed me the original device. He turned it off, put it on the table and asked me what I saw. I replied that it was a block of metal with a glass screen. His reply? ‘It’s a piece of glass for Apple to deliver its exciting new software.’”⁵

Apple was primarily an operating system and user-interface company. Hardware was of secondary interest and could be perceived as a “blank canvas” that delivered seamless continuity.⁶ Its strategy was to deliver user interfaces, apps and services, while introducing a high-end blank canvas in the form of Mac computers, iPhones, iPads, iWatches and any other technology the company might embrace in the future. Apple claimed as its vision a focus on great products, innovation, simplicity, controlling the primary technologies behind its products as well as deep collaboration and cross pollination of its employees and finally excellence with the self-honesty to admit mistakes. Its mission was to design Macs and other products to define the future of mobile media and computing devices with iPad.⁷

Apple mastered the platform business model. It provided an infrastructure to enable value exchange between external creators—app developers, hardware developers, artists, etc.—and consumers. It fulfilled impeccably the role of network orchestrator by allowing a great degree of openness in its operating system, as well as in associated services such as iTunes. Apple’s iOS was open enough to allow for innovation, while at the same time closed enough to ensure proprietary control and therefore premium pricing and high profits. However, such a position was increasingly difficult to defend as Android-based phones caught on with their aesthetics, while entrenching their position in terms of market share [see **Exhibits 4 and 5**].

In light of this, Apple was constantly strengthening its ecosystem by embracing new trends and technologies, improving its customer service and integrating its value-added services, all with the aim of enhancing brand stickiness. Apple was also busy experimenting with transformation programs in certain industries, such as education, finance and healthcare, through services like iTunes U, Apple Pay, the Health app, Health ResearchKit and CareKit.

People, software, the Internet of Things (IoT) and self-driving vehicles were all connecting elements in Apple growing its platform through integration. In China, where the government favored local platforms, Apple had to intensify its efforts to fend off the competition, maintain its platform traction and prevent users from engaging in similar types of activity on more than one platform.⁸

Experimentation, R&D and innovation were costly, but Apple enjoyed over US\$246.09 billion in cash reserves in fiscal 2017Q1. Its service revenue alone [see **Exhibit 6**] could be compared

⁵ Bajarin, T. (03 April 2017) “Learning This 1 Thing Helped Me Understand Apple’s Strategy,” *Time*, <http://time.com/4723389/apple-strategy-iphone-ipad-apple-tv/> (accessed 11 April 2017).

⁶ Ibid.

⁷ Rowland, C. (20 January 2017) “Apple’s Vision Statement and Mission Statement,” Panmore Institute, <http://panmore.com/apple-mission-statement-vision-statement> (accessed 11 April 2017).

to Facebook's revenues in the previous quarter.⁹ Apple's profits depended largely on the sales of its core product: the iPhone. In 2017Q1, the iPhone contributed 69.40% to annual revenues [see **Exhibits 7 and 8**]. The iPhone's margin oscillated around 40%, and in the case of iPhone 6 went up to 69%. Although Apple's portfolio included other products and services, around two-thirds of its revenues came from iPhone sales [see **Exhibits 9, 10 and11**]. This was a double edged sword and posed a potential threat to the company's performance, as any changes in the field of smartphones might immediately affect Apple's cash flow and profits. Regardless, at the moment, iPhone 8 was in the limelight.

Desperately Seeking a New Disruptor

The new iPhone 8, rumored to be featuring a display with curved edges (as seen in the Samsung Galaxy), was supposed to come with wireless charging, a built-in touch ID and a camera hidden under the display, so that its entire front would be a borderless screen. Instead of LCD, the screen would be based on OLED technology just like the Apple Watch. This was characterized by lower battery consumption, higher contrast and better colors. OLED promised to make the iPhone thinner and lighter, as it did not require back-lighting. On the downside, Samsung was the main provider of OLED displays in 2017, as other companies were just readying the technology. For photo and video enthusiasts, the new iPhone would also be equipped with a dual-lens camera and optical-image stabilization.¹⁰ In terms of security, Apple was going beyond fingerprint identification, as iPhone 8 was supposed to come with iris or facial scanning. Furthermore, Apple had patented technology for a capacitive ultra-sonic home button with a sensor that would be hidden under the screen and be able to read fingerprints with more accuracy than the existing system. Apple was innovating again, but Chinese manufacturers were expected to release cheaper phones with these revolutionary features prior to the scheduled Fall 2017 release of the iPhone 8.¹¹

In March 2017, Apple filed a patent application for "locking and unlocking a mobile device using facial recognition" by inventors Lihua Zhao and Richard Tse.¹² The patent specified that if the device did not see the user's face in its viewing field, it would lock automatically. It was not the first face-recognition patent filed by Apple. Previously, the company was granted patents for facial device-locking and unlocking in 2015 and 2016. It was not known if face recognition would become a built-in feature of the iPhone 8, but there were many indications that it would, including the acquisition of Realface. Realface specialized in AI integration with facial recognition.¹³ As always, Apple's strategy of secrecy ensured that speculation was building, while mystery and magic were driving branding and marketing. In the meantime, Apple was embarking on new journeys.

⁹ Balakrishnan, A. (1 February 2017) "Tim Cook: Hight iPhone 7 Plus Demand helped fuel better-than-expected sales," CNBC, <http://www.cnbc.com/2017/01/31/apple-reports-fiscal-first-quarter-q1-2017-earnings.html> (accessed 22 March 2017).

¹⁰ MacRumors (11 January 2017) "iPhone 8" <http://www.macrumors.com/roundup/iphone-8/> (accessed 17 january 2017).

¹¹ Rogerson, J. (13 January 2017), "iPhone release date, news and rumors," TechRadar, <http://www.techradar.com/news/phone-and-communications/mobile-phones/iphone-8-1329124> (accesed 17 January 2017).

¹² Lihua, Z. (16 March 2017), "Locking and unlocking a mobile device using facial recognition," US Patent & Trademark Office, [http://appft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&u=%2Fnetacgi%2FPTO%2Fsearch-adv.html&r=22&p=1&f=G&l=50&d=PG01&S1=\(apple.AANM.+AND+20170316.PD.\)&OS=aanm/apple+and+pd/3/16/2017&RS=\(AANM/apple+AND+PD/20170316\).](http://appft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&u=%2Fnetacgi%2FPTO%2Fsearch-adv.html&r=22&p=1&f=G&l=50&d=PG01&S1=(apple.AANM.+AND+20170316.PD.)&OS=aanm/apple+and+pd/3/16/2017&RS=(AANM/apple+AND+PD/20170316).)(accessed 23 March 2017).

¹³ Owen, M. (16 March 2017) "Apple concept for biometric facial recognition could hint at iPhone 8," appleinsider, <http://appleinsider.com/articles/17/03/16/apple-concept-for-biometric-facial-recognition-could-hint-at-iphone-8> (accessed 23 March 2017).

New Ventures

Wind Turbines

In December 2016, Apple announced that it had purchased a 30% stake in China's biggest wind turbine manufacturer, Goldwind. A year earlier, Apple had cooperated on solar-power projects to provide renewable energy sources to its suppliers such as Foxconn, Lens, Catcher and Solvay, partly as a way to compensate for the pollution caused by the coal-based electronics industry. Apple bought renewable energy from clean energy distributors and sold it back to the grid in exchange for renewable-energy certificates.¹⁴

Self-Driving Cars

Transportation was valued between US\$5 to \$15 trillion in 2017, which made it a bigger market than IT or healthcare. It was predicted that car ownership would plummet as self-driving cars became popular. In the meantime, Apple was working on a mysterious "Project Titan," and it was revealed in May 2017 that this might have been an attempt to build a transportation platform.¹⁵

A year earlier in May 2016, Apple had invested in Didi Chuxing (the infamous company which had beat out Uber in China, after Uber lost billions of dollars in the country). Apple's move was potentially targeted towards developing self-driving cars in China.

In a letter to the U.S. National Highway Traffic Safety Administration, Apple, among others, hinted that regulations should allow for faster iterations by expediting requests for exemptions and petitions that would foster innovation and the development of self-driving cars. It also suggested sharing of data about accidents and near-accidents to improve self-driving vehicle safety. Apple said that such data-sharing would greatly contribute to the industry, but should not come at the cost of privacy.¹⁶

Self-driving cars and renewable energy seemed to be Apple's first major investments outside the scope of its core products [see **Exhibit 12**]. Those two industries were given high priority in China, and many companies in the U.S. were also heavily involved in those two areas. However, developing these technologies in China could turn into a struggle for Apple because of heightened anti-U.S. sentiment.

Augmented Reality

To be successful in AR, there is the hardware piece, but you have to do other stuff too: from maps to social to payments ... Apple is one of the only companies that will be able to pull it off.¹⁷

- Gene Munster, Analyst and founding partner at Loup Ventures

Tim Cook believed strongly in augmented reality (AR) and that it would become part of everyone's life one day. His vision was that AR would be enabled by the Apple operating system. Unlike virtual reality (VR), which Cook thought was great for education and gaming,

¹⁴Pham, S. (9 December 2016) "Why Apple is investing in wind turbines in China," CNN Tech, <http://money.cnn.com/2016/12/09/technology/apple-wind-turbine-china-investment/> (accessed 18 January 2017).

¹⁵Edwards, J. (11 May 2017) "Apple isn't working on a car – it's working on something much bigger," Business Insider, <http://www.businessinsider.com/apple-car-autonomous-driving-2017-5> (accessed 11 May 2017).

¹⁶Bradshaw, T. (4December 2016) "Apple reveals plans for self-driving car," Financial Times, <https://www.ft.com/content/5c643f94-b983-11e6-8b45-b8b81dd5d080> (accessed 18 January 2017).

¹⁷Ibid.

AR was going to happen “in a big way.”¹⁸ Apple acquired a specialized team to work on AR. The team had engineers on board who had worked on the Oculus and HoloLens VR and AR headsets for Facebook and Microsoft respectively. On the content side, the team included an engineer who had worked on Google Earth and a few Hollywood digital-effects specialists. The company also opened an office in New Zealand and hired people who had worked on special effects for *Avatar* and *King Kong*. It also acquired smaller firms that focused on AR hardware, 3D gaming and AR software. Apple had work-in-progress on various AR products, such as digital glasses that could display movies, maps and other applications.¹⁹ The technology was not yet polished and was constrained by a lack of content. New ventures presented new perspectives and opportunities for the future, but in the meantime Apple was faced with strong competition targeted at its core business.

Apple was not the only player hoping to succeed in the AR field. Among major competitors, Facebook’s Mark Zuckerberg announced that he was creating an AR platform in which glasses, at the price of a bottle of wine, would be used as the primary hardware. Facebook missed out on smartphone operating systems, as it had entered the market after the smartphone era had already begun. However, if Facebook or other players could launch the AR equivalent of Apple’s iOS for AR hardware, Apple’s position would be endangered.²⁰ With that in mind, Apple had to start thinking about its new signature product in a post-smartphone world without iPhones.

Chinese Smartphone Market

The competition is more fierce in China -- not only in this industry, but in many industries.... I think that's a credit to a number of local companies that put their energies into making good products.

- Tim Cook²¹

Like many international companies, Apple had bet on China, trusting it would benefit from China’s large population and growing spending power. That thinking initially proved correct [see **Exhibit 13**]. The iPhone 6 was the first in the series to offer a bigger screen, which was widely preferred in China, as many users watched a lot of online video content. A larger screen also facilitated reading and writing Chinese characters. In 2015Q2, over 26% of all iPhones sold worldwide ended up in the hands of customers in China [see **Exhibit 14**]. However, by the end of 2015 through 2016, Chinese sales weakened under the pressures of competition [see **Exhibits 15, 16 and 17**].

In 2007, the year that Apple launched the iPhone, mobile phone manufacturers such as Nokia, Samsung, Motorola, Sony Ericsson and LG captured 90% of worldwide profits. With a mere 4% share in desktop operating systems and none in mobile phones at the time, Apple managed to take over 90% of global profits less than a decade later, by 2016. Samsung was the only company of the former big five still making a profit. With this success, Apple proved it was possible to compete against highly profitable, trusted brands that boasted strong product

¹⁸ Lesfig, K. (3 October 2016) “Apple CEO thinks augmented reality will be as important as ‘eating three meals a day’,” *Business Insider UK*, <http://uk.businessinsider.com/apple-ceo-tim-cook-explains-augmented-reality-2016-10> (accessed 28 March 2017).

¹⁹ Gurman, M. (21 March 2017) “Apple’s next big thing: Augmented reality,” The Salt Lake Tribune, <http://www.sltrib.com/home/5082522-155/apples-next-big-thing-augmented-reality?fullpage=1> (accessed 28 March 2017).

²⁰ Heath, A. (24 April, 2017) “Mark Zuckerberg wants to kill the smartphone so Facebook can control what comes next,” *Business Insider*, <http://www.businessinsider.com/this-is-why-facebooks-mark-zuckerberg-wants-to-kill-the-smartphone-with-ar-2017-4> (accessed 11 May 2017).

²¹ Bloomberg Technology (20 March 2017) “Secretive Billionaire Reveals How He Toppled Apple in China,” <https://www.bloomberg.com/news/articles/2017-03-19/secrective-billionaire-reveals-how-he-toppled-apple-in-china> (accessed 22 March 2017).

differentiation, ran on leading operating systems, had great R&D budgets, massive scale and well-established logistics.²²

Looking back at the iPhone story, its initial success was built on innovation, brand image and ecosystem. Apple's innovation created an unprecedented demand for smartphones. Ingenious branding appealed to an affluent society and elevated iPhone to the level of mass luxury. The platform ecosystem, in the form of iTunes on the software/content level and licensed iPhone gadgets on the hardware level, would tie users up and keep them loyal. Moreover, platform use allowed clientele to be extended to a steadily growing cadre of partners and creators. Hugely successful, Apple stayed on top for many years, but eventually fell to the spell of the Red Queen: "Now, here, you see, it takes all the running you can do, to keep in the same place."²³

Major Chinese Players

Apple is an extraordinary company. It is a model for us to learn from... We don't have the concept of surpassing anyone, the focus instead is to improve ourselves.

- Duan Yongping, founder of Oppo and Vivo²⁴

While most Asian companies were not making much money on phone sales, they certainly stole a big chunk of the worldwide market from Apple in 2016 [see **Exhibit 18**.²⁵ Severe competition in recent years came from Korea and China, which eliminated the majority of Western players, with the exception of Apple.

Oppo and Vivo were two Chinese brands sold mostly in China and South East Asia. Oppo started as an MP3 player manufacturer and then went into production of DVD and Blu ray disc players. Founded in 2004, it entered the mobile market in 2008. It was reported to be the second-most-profitable company in China in 2013.

Vivo was founded in 2009 and started selling smartphones in 2011. It launched the world's slimmest smartphone, X1, in 2012. The brand put strong focus on merging hi-fi sound and smartphone technology. It also highlighted the importance of interactivity and developed its own Android-based operating system.²⁶ In 2016, Oppo surpassed Vivo and had bigger sales than Huawei and Xiaomi. Both brands offered high-quality phones at lower prices and had bet on aggressive advertising to increase sales.

Oppo and Vivo had a combined market share of almost one-third of the Chinese smartphone market in 2016.²⁷ They both made it into the top five in only two short years. Oppo sold 17% of all phones in China in 2016, beating Apple, which took around 10%. That marked the first time in five years that the iPhone was not the best-selling phone in China.²⁸ Duan Yongping, co-founder of Oppo and Vivo, known to many as the person who had paid US\$620,100 in 2006

²² Van Alstyne, M.V., Parker, G.G and Sangeet, P.C. (April 2016) "Pipelines, Platforms, and the New Rules of Strategy," *Harvard Business Review*, Reprint R1604C, Kindle Version,

²³ Carroll L. "Through the Looking Glass and what Alice Found There," 1872.

²⁴ Bloomberg Technology (20 March 2017), "Secretive Billionaire Reveals How He Toppled Apple in China," <https://www.bloomberg.com/news/articles/2017-03-19/secretive-billionaire-reveals-how-he-toppled-apple-in-china> (accessed 22 March 2017).

²⁵ IDC (2016) "Smartphone Vendor Market Share 2016Q3," <http://www.idc.com/promo/smartphone-market-share/vendor;jsessionid=82EC0C1445631836AA9A836094920B75> (accessed 13 January 2017).

²⁶ Phone Radar (n.d.) "The History of BKK Electronics – Parent Company of OPPO, OnePlus & Vivo Electronics," <http://phoneradar.com/bbk-electronics-company-information/> (accessed 24 February 2017)

²⁷ Tech Crunch (5 February 2017) "Oppo topped China's smartphone market in 2016, as Apple recorded first annual decline" <https://techcrunch.com/2017/02/05/oppo-topped-chinas-smartphone-market-in-2016/> (accessed 30 May 2017)

²⁸ CNBC Tech Transformers (27 January 2017) "Apple iPhone toppled from No. 1 spot in China for the first time in 5 years making firm 'vulnerable'" <http://www.cnbc.com/2017/01/27/iphone-topped-from-top-spot-china-for-the-first-time-in-five-years-report.html> (accessed 30 May 2017)

to have lunch with Warren Buffet, said that they were able to compete with Apple in China [see **Exhibit 19**] as Apple had not adapted to local competition.

Oppo and Vivo launched lower-priced devices with high-end features, which Apple could not do without compromising its global image of high-end pricing. Duan admitted that Apple made a lot of great things, such as its operating system, but Oppo and Vivo excelled in other areas, such as memory, charging speed and battery life. To compete with the fancy iPhone and corporate Blackberry, Oppo and Vivo developed a marketing strategy that was built on celebrity endorsement, established a significant resellers network, created an image of affordability, offered high specs and targeted millennials. The two phones were initially successful in mid-tier cities in China, but by 2016Q1 Oppo and Vivo were fourth and fifth in the world.²⁹

Huawei, a Shenzhen-based company founded in 1987, was the world's largest manufacturer of telecommunications equipment, with a business presence in over 170 countries. It had over 79,000 employees, 45% of whom were involved in R&D. In 2015, the company invested 15% of its total revenue in R&D. Huawei's ICT (information and communication technology) solutions, products and services were delivered to over one-third of the world's population.³⁰ It established numerous R&D centers around the world, including the Huawei Aesthetics Research Center in Paris, to work with French luxury brands to create synergy between technology and future fashion trends, and the Max Berek Innovation Lab in Wetzlar, Germany, to cooperate with Leica in improving mobile-device cameras and image quality.

Huawei brand recognition went up 16 places in 2016, compared to the previous year, according to Interbrand's 2016 Best Global Brands Report. As Glory Zhang, Chief Marketing Officer of the Huawei Consumer Business Group, said, "Our improved Interbrand ranking validates Huawei's strategy of focusing on delivering ground breaking technologies to meet our customers' needs and desires. The Huawei brand is increasingly recognized and appreciated by consumers around the world."³¹ It aspired to surpass Apple to become the top smartphone in the world by 2021.

Huawei was already one of the top players in the global mobile market as its average smartphone price increased steadily QoQ (quarter on quarter).³² Huawei started encroaching on the higher end of the market, taking customers from Apple and Samsung not only in China but overseas. Following the Chinese government's encouragement of innovation, brands such as Huawei began to redefine the worldwide perception of Chinese products, which were now considered to be more innovative and better quality. In January 2017, Huawei's Honor model took 23% of the Chinese market share, while Xiaomi secured 21%. The iPhone had lost its top place for the first time since 2012.³³

Xiaomi, once referred to as the Apple of China, operated its own platform, which was similar to the iTunes store. It initially entered the market pushing online sales, but revisited this strategy by opening brick and mortar stores. In an open letter, Lei Jun, Xiaomi's CEO, outlined its new strategy, targeting revenues of US\$14.55 billion in 2017, to be achieved through technological

²⁹ Bloomberg Technology (20 March 2017), "Secretive Billionaire Reveals How He Toppled Apple in China," <https://www.bloomberg.com/news/articles/2017-03-19/secretive-billionaire-reveals-how-he-toppled-apple-in-china> (accessed 22 March 2017).

³⁰ Huawei (n.d.) "Corporate Information," <http://www.huawei.com/en/about-huawei> (accessed 24 February 2017).

³¹ Interbrand (2016) "Press Release: Huawei," <http://interbrand.com/best-brands/best-global-brands/2016/ranking/huawei/press-release-huawei/> (accesed 24 February 2017).

³² IDC (2016) "Smartphone Vendor Market Share," <http://www.idc.com/promo/smartphone-market-share/vendor> (accessed 23 March 2017).

³³ Wadham, M. (21 March 2017) "Apple iPhone nudged from top spot in China by Huawei's Honor." <http://www.theinvestmentobserver.co.uk/tech/2017/03/21/apple-iphone-nudged-top-spot-china-huaweis-honor-3h0aoa3/> (accessed 25 March, 2017).

breakthroughs, new retail and global strategies, artificial intelligence and internet finance.³⁴ He stated that Xiaomi had achieved a breakthrough in the high-end smartphone market by showcasing its technological-innovation and design capabilities, which included features such as dual curved glass, first-in-the-world full-display design, ultrasonic fingerprint sensors—(which Apple was expected to introduce in the iPhone 8)—and an advanced camera. Lei Jun also highlighted the success of Xiaomi's retail strategy, which had shifted from online to offline sales. The Mi Ecosystem IoT connected over 50 million devices, while the company claimed to have the world's most successful hardware incubator.

Lenovo, the world's biggest PC supplier, held second position as a smartphone brand in China at the beginning of 2014. In just two years, it dropped to eleventh. Lenovo bought Motorola from Google in 2014 for US\$2.91 billion. Based on its earlier success in 2005 when Lenovo completed the acquisition of IBM's Personal Computing Division, the Motorola deal was expected to perform equally well, but proved a failure because of, among other things, problems in the company's distribution channels. Lenovo was closely tied to Chinese state-owned carriers, which subsidized smartphone sales. In 2015, the government ordered the carriers to cut costs, resulting in a reduction of subsidies. That hit Lenovo on two levels. First, customers felt that the prices of Lenovo smartphones were higher than competitors' prices. Second, Lenovo realized that relying on carriers to sell its phones significantly weakened its branding strategy compared to competitors.³⁵ Lenovo was also slow on the innovation side and failed to develop features to differentiate its products. However, in 2016, Lenovo offered the modular smartphone concept, allowing the user to customize hardware specifications, such as cameras, speakers and batteries.³⁶ Although Lenovo was in trouble in the local smartphone market, its global presence and experience, combined with the future possibility of leveraging the Motorola brand, left a chance for long-term recovery.

At the end of 2016, the top five players in China—Oppo, Huawei, Vivo, Apple and Xiaomi—had captured two-thirds of the total smartphone market [see **Exhibit 20**]. Chinese brands were also making impressive strides globally. For example, in 2016 they captured half of the thriving smartphone market in India, pushing down the share of top-seller Samsung from 30% to 21%. This was achieved not only through superior product features, but also astute marketing campaigns using Indian celebrities and sponsoring widely popular sports events such as cricket.³⁷

Not only were Chinese brands disturbing the local market, but more Chinese players across various industries were going global. The Chinese Didi Chuxing acquired Uber China in August 2016 and then invested in Indian Ola, American Lyft, and South East Asian Grab. The same year, Alibaba's Jack Ma kept saying that 50% of the company's revenues would be international by 2025. Mergers and acquisitions, like Lenovo's investments in IBM and Motorola, were one of the strategies used by strong Chinese companies to expand overseas.

Doing business in China had never been easy for foreign companies. The government was very protective of local business and data. Companies such as Google, Facebook and other tech giants looked at the problem and decided to leave China. To succeed in China in the past,

³⁴ MI (12 January 2017) "Facebook, Xiaomi's Goals in 2017," <https://www.facebook.com/notes/mi/a-letter-from-xiaomi-ceo-lei-jun-tech-innovations-new-retail-strategy-and-strivi/1262647133770877/> (accessed 20 February 2017).

³⁵ Lee, X.E. (5 July 2016) "Lenovo Business Strategy: Are Smartphones The Path To Success?" CKGSB Knowledge, <http://knowledge.ckgsb.edu.cn/2016/07/05/china-business-strategy/lenovo-business-strategy-smartphones-success/>.(accessed 24 March 2017).

³⁶ Kang, J. (29 September 2016) "What Happened to Lenovo, Once A Top Chinese Smartphone," *Forbes*, <https://www.forbes.com/sites/johnkang/2016/09/29/what-happened-to-lenovo-once-chinas-top-smartphone-maker/#51599fe67031> (accessed 24 March 2017).

³⁷ Phartiyal, S. (6 Jan 2017) "China nibbles at Samsung share to take 50 percent of India's smartphone market," Reuters. <http://www.reuters.com/article/us-india-smartphones-china-idUSKBN14Q0ZH> (accessed 30 May 2017).

companies had to develop strategies to partner with local entities and develop local relationships with the government (so-called *guanxi*). With time, though, the Chinese government had become more aware of the power of information and technology, and had started limiting access to data as well as its collection and storage, by introducing various regulations. For example, a company could only store user data within China, a regulation with which Apple complied in 2014. Other international tech companies refused such compliance on the grounds of privacy and censorship.³⁸

Samsung

Samsung, generating almost one-fifth of South Korean exports, was founded in 1938 as a trading company. Over the years, its business expanded into a host of industries, including shipbuilding, petrochemicals, construction, aircraft engines, defence, electronics, telecommunications, PCs, car manufacturing, insurance, advertising and entertainment. In 30 years, it had grown revenues 39-fold.

In 1993, Samsung decided to narrow its focus to electronics, engineering and chemicals.³⁹ In 2012, Samsung was the biggest cellular phone maker by unit sales, and led the global smartphone market with 21% market share in 2016, coming in second in earnings after Apple.⁴⁰

The company, however, faced occasional PR crises. Its chairman Lee Kun Hee was involved in financial wrongdoing and tax evasion, resulting in a conviction in 2008. He faced fines of approximately US\$98 million and a three-year suspended jail sentence.⁴¹ In February 2017, his son, Lee Jae-Yong, the company's vice chairman, was arrested on charges of bribery.⁴²⁴³ Samsung also had to grapple with a PR disaster related to Galaxy 7's exploding batteries, resulting in a mass recall of the product. In China, Samsung's share of smartphones dropped from 12.8% to 7.7% during 2016.

In April 2017, Samsung introduced its Galaxy S8 and S8 Plus, which came with revolutionary features such as retina scanning for user identification, enhanced camera, infinity display, Bixby (the Samsung virtual assistant), DeX (Desktop Experience, which turned the Galaxy smartphone into a desktop when plugged to the DeX screen) and many other features. The new S8 and S8 Plus models were poised to change Samsung's image and expected to pose a serious challenge to the incoming iPhone 8.

Although market-share percentages were a dynamic variable that changed quarterly, the general trend and corresponding numbers showed that both Samsung and Apple were losing ground to Chinese brands in both the mid- and premium-price-range markets. Tim Cook said that Apple did not have any specific goal for market share in China, where it faced the fiercest local competition. He added that China's mobile market had its unique characteristics, as local customers were more willing to change their habits.⁴⁴

³⁸ Shih, G. and Carsten, P. (15 August 2014) "Apple begins storing users' personal data on servers in China," Reuters, <http://www.reuters.com/article/us-apple-data-china-idUSKBN0GF0N720140815> (accessed 19 January 2017).

³⁹ Burris, M. (20 March 2017) "The History of Samsung (1938 – Present)," Lifewire, <https://www.lifewire.com/history-of-samsung-818809>, (accessed 22 March 2017).

⁴⁰ Stickler, D. (8 April 2013) "Samsung: A short history," San Jose *Mercury News*, <http://www.mercurynews.com/2013/04/08/samsung-a-short-history/> (accessed 22 March 2017).

⁴¹ Choe, S-H. (16 July 2008) "Former Samsung chief gets suspended jail sentence for tax evasion," New York *Times*

⁴² McCurry, J. S (17 February 2017) "Samsung head arrested over South Korean Choi-gate corruption scandal," *The Guardian*,

⁴³ Sangh-Hun. C. (15 January 2017) "Samsung Heir Faces Arrest on Charges of Bribery South Korea's President," New York *Times*, https://www.nytimes.com/2017/01/15/world/asia/south-korea-samsung-arrest-jay-lee-park-geun-hye.html?_r=0 (accessed January 16, 2017).

⁴⁴ Roman, D. and Martin, P.(18 March 2017), "Tim Cook Says Apple Not Aiming For Specific China Market Share," Bloomberg Tech, <https://www.bloomberg.com/news/articles/2017-03-18/tim-cook-says-apple-not-aiming-for-specific-china-market-share>, (accessed 23 March 2017).

Production, R&D, Technology

I'm going to bring jobs back... I'm going to get Apple to start making their computers and their iPhones on our land, not in China. How does it help us when they make it in China?

- President Donald Trump⁴⁵

Bringing Apple production to the U.S. and creating more jobs locally might have seemed to be a good idea. Yet according to some experts, there were several obstacles. Many Apple suppliers were located in China and logically it was highly inefficient to bring the parts all the way to the U.S., especially if import tariffs were imposed. Furthermore, manufacturing skills in the U.S. were deficient and available skilled workers were much costlier, quite apart from China's superior production scale and ecosystem.

Zhengzhou

iPhones were produced in Zhengzhou, a city of six million people in Southern China and home to Foxconn, which produced 500,000 iPhones a day. The government had allotted US\$1.5 billion to Foxconn to build its factory, house its workers and improve infrastructure, roads and power plants. It had cost US\$400 to produce the iPhone 7 32GB, which retailed at around US\$649.⁴⁶

Apple R&D 2017/2018

Just a few months after announcing the opening of a US\$45 million R&D center in Beijing in August 2016, Apple revealed plans to open another in Shenzhen, a city famous for manufacturing and innovation. Known as China's Silicon Valley, Shenzhen had become the hub for overseas innovation startups attracted by its hardware and prototyping capabilities. It was also home to such Chinese international giants as Huawei, ZTE, DJI and Tencent. In March 2017, the plans for two new R&D centers in Suzhou and Shanghai were announced. The four Chinese centers were scheduled to open by the end of 2017, with a total investment of US\$507 million.⁴⁷ It was thought that setting up R&D centers in China would allow Apple to strengthen government relations and source new talent, while keeping a close eye on the competition.⁴⁸

Technology Transfer

By offering a large marketplace, tax exemptions and other incentives, the Chinese government attracted many Western companies to set up joint-venture businesses. Technology transfer was often a pre-condition of the process.

Doing business in China was always fraught with several risks:

- ineffective legal system that would often fail to protect foreign companies in case of disputes
- ad hoc introduction of government policies that might affect particular businesses or industries
- intellectual property leakage
- potential to be copied, then pushed out of the country as a result of new policies

⁴⁵ Leswing, K. (9 November 2016), "Boycott Apple, 3 Ways a Trump presidency could affect Apple," *Business Insider*, <http://www.businessinsider.com/how-trump-presidency-will-affect-apple-2016-11> (accessed 18 January 2017).

⁴⁶ Barboza, D. (29 December 2016) "How China Built iPhone City With Billions in Perks for Apple's Partner," *New York Times*, https://www.nytimes.com/2016/12/29/technology/apple-iphone-china-foxconn.html?_r=0 (accessed 18 January 2017).

⁴⁷ Kharpal, A. (17 March 2017) "Apple plans two more R&D centers in China as its challenges in the country continue," *CNBC*, <http://www.cnbc.com/2017/03/17/apple-china-two-more-research-centers-as-challenges-continue.html> (accessed 22 March 2017).

⁴⁸ Vincent, J. (12 October 2016) "Apple is opening an R&D center in the home of China's tech boom," <http://www.theverge.com/2016/10/12/13255140/apple-shenzhen-r-and-d-center> (accessed 18 January 2017).

- unfair competition favoring local firms

Giants such as Google, eBay, Amazon, Facebook and Uber were good examples of how impenetrable China had been in the long run.

Goldwind, a company Apple invested in, succeeded in the process of technology transfer. First, in 1989, Danish Bonus EnergyA/S partnered with Goldwind on 150kW wind turbines. Then, in 1996, the German government financed Jacobs Energie GmbH's development of a 600 kW wind turbine, which in 1997 in turn licensed the technology to Goldwind. In 2007, Goldwind came into a licensing agreement with Repwer Systems AG for a 750 kW turbine. Obviously, the companies had agreed to technology transfer, hoping that they would be able to tap into the enormous "eco-driven" market. To their surprise, no overseas wind turbine manufacturer had been awarded any project in China since 2005.⁴⁹

Apple, being a 30% shareholder, seemed to have a chance to profit from Goldwind's success. Yet the same mechanism that made Goldwind profitable might have turned on Apple, as Chinese companies copied iPhones and the Apple platform business model.

Chinese Consumer Behavior

Chinese consumer behavior had been transforming dynamically, reflecting changes in the economy and following trends that came from the West, Japan and Korea. Profiling Chinese consumers was difficult because of the country's uneven income distribution, geographical spread and disparate infrastructure. Brand loyalty depended on the area involved.⁵⁰ Like consumers in other developing economies, Chinese consumers spent a lower percentage of their income on necessities and more on discretionary categories. They also preferred to trade up to aspirational purchases by spending more on high quality/premium products, and would stay with their favorite brands rather than opting for a cheaper product.⁵¹

The rapid economic growth of China entailed the emergence of a growing class of confident senior consumers who indulged in spending on premium products and services as a reward for hard work. Nonetheless, Chinese consumers in general tended to be pragmatic, shying away from impulse purchases and carrying out extensive price research before buying a product.

The dynamic changes in China's economy reinforced rapid changes in people's preferences, behaviors and habits, which were often influenced by internet culture and the faster-than-ever flow of information.

Demographics

MasterCard determined that women oversaw 75% of household spending in China. Their dominance as consumers was on the uptrend and they were increasingly concerned about health, education and safety.⁵² Even though they were not particularly interested in technology, they were in love with brands, trends, fashion and luxury, including the iPhone.

⁴⁹ Jarrett, K. and Wendholt, A. (March 2010) "Transferring Technology to Transform China – Is It Worth It?" *China Business Review*, <https://www.chinabusinessreview.com/transferring-technology-to-transform-china-is-it-worth-it/>, (accessed 20 January 2017).

⁵⁰ For example, Shanghai residents become more loyal to brands (24% increase in three years) compared to residents of Hangzhou (9%) or Beijing (7%).

⁵¹ Atsmon, Y. and Magni, M. (October 2016) "Chinese Consumers: Revisiting Our Predictions," *McKinsey Quarterly*, <http://www.mckinsey.com/industries/retail/our-insights/chinese-consumers-revisiting-our-predictions> (accessed 15 February 2017).

⁵² Towson, J. (20 December 2016) "2017 will be the Year of Chinese Consumer," *China Daily Europe*, http://europe.chinadaily.com.cn/epaper/2016-12/30/content_27818650.htm (accessed 24 March 2017).

Urbanization, increasing wages and wealth resulted in mass migration from rural areas into the cities. Over 30 million people moved to cities between 2014 and 2016. It was estimated that China would have ten New York-sized cities by the end of 2025.⁵³ iPhone sales were much stronger in big cities in China, and the growing population was combined with increasing general wealth.

Indulgence

After years of sameness imposed by the political system, Chinese consumers wanted to break the pattern, be different and set themselves apart from the “common people.” They were looking for ways to pamper and indulge themselves. Many consumers considered the iPhone a symbol of status and taste that was visible, elegant and internationally recognized.

Healthcare

Lifestyle, health and safety became an increasingly important aspect of life. A growing portion of Chinese consumers had the time and money to concern themselves with these issues. Tech brands quickly noticed that even the simplest healthcare or lifestyle products were popular. Apple proved successful in this area, developing its health apps and partnering with others in the domain. The lifestyle concept also endorsed leisure and hobbies. Brands that could match their products to customer lifestyles were winning the game.

Chinese consumers shifted their interests from what they needed to what they wanted. Such behavior rooted purchases in emotions, impulses and aspirations. The new behavior often resulted in real-time market impact. For example, when England voted for Brexit and the British pound exchange rate became more favorable against the Chinese yuan, Chinese tourists flooded the United Kingdom⁵⁴ and parents started thinking about sending their children to the UK rather than to other countries such as Australia, New Zealand or the U.S. Property investors quickly shifted their eyes towards London. A collective Chinese-consumer impulse decision could redefine a particular segment or industry in a snap.

Spending Habits in App Stores

Many Chinese brands were trapped in overreliance on hardware and failed initially to deliver acceptable user experiences. That gave Apple an advantage, setting up a strategic moat around users who were attracted to Apple interfaces, apps and service. In 2016, China became the largest iOS app market, with revenues surpassing the U.S. This showed a change in consumer behavior, as they were more willing to spend their money on apps. Chinese phone makers who used Android OS could not offer the Google Play Store, since had Google exited China in 2010. This resulted in third-party app stores, including Tencent’s Myapp, 360 Mobile Assistant and Baidu Mobile assistant⁵⁵ [see **Exhibit 21**]. Phone-makers such as Xiaomi and Huawei set up their own app stores, challenging the dominance of the Apple store. Overall, consumers were spending increasingly more in Android App stores than in the Apple App store [see **Exhibit 22**]. Android users in China who were once unwilling to spend, changed their habits and became paying consumers. Customers in the Asia Pacific region generated a majority of the annual revenues that came from in-app purchases [see **Exhibit 23**], paid apps and subscriptions that eliminated in-app advertising. Gaming was the most lucrative segment, with 81% of total global app revenues. It was expected that streaming news and dating subscriptions would grow at a 25% annualized rate by 2021.⁵⁶

⁵³ Ibid.

⁵⁴ Ibid.

⁵⁵ BI Intelligence (31 March 2017) “Android app revenue on track to beat iOS in 2017,” *Business Insider*, <http://www.businessinsider.com/android-app-revenue-on-track-to-beat-ios-in-2017-2017-3?IR=T> (accessed 12 April 2017).

⁵⁶ Ibid.

Brand Loyalty

Loyalty had long been a distinctive feature of Apple customers. In 2016 in China, 78% of iPhone users were loyal to the brand, but 9% said they would opt for an Android-based smartphone on their next purchase. 59% of those who had Android phones would continue with them, an increase of 33% compared to the previous year.⁵⁷ Over three-quarters of Chinese smartphone users changed their phones every two years, and many did so at least once a year. Users giving up an iPhone for other local brands were motivated by various reasons [see **Exhibits 24, 25 and 26**]. Chinese consumers began to understand that local brands in certain categories, including electronics, were just as good, or better than, overseas products. Overseas food, beverage, dairy and personal care brands were still considered superior⁵⁸ but Apple had no involvement in those industries. Cars were another industry in which foreign companies lost Chinese consumers. A 2014 survey showed that Chinese brands attracted consumers in 18 of 26 categories over three years.⁵⁹ In general, brand loyalty was not a strong aspect of Chinese consumer behavior. The Chinese liked luxury brands, but cared less which brand they owned, as long as it gave them status through extravagance.

Reacting to Political and Quality Issues

Chinese consumers had access to information and could react to unwelcome political or service/product quality issues in real time. They were known for boycotting international brands based on sociopolitical events and trends, or because of brand misinformation. In the previous decade, media and internet users had orchestrated nationwide boycotts of products originating from particular countries, such as Japan or France, or sold by particular brands, such as KFC, Nike, Apple, McDonald's, Volkswagen and Muji.^{60 61} Those events showed that brands needed not only to increase consciousness of their own actions, but also pay attention to the world of politics and international relations. In this light, Apple's position was dependent not only on its own products and reputation but on the dynamics of Sino-American government relations.

The evolution of Chinese consumers brought them from a docile position to becoming active and sometimes impulsive decision-makers, who could make or break international brands on a whim. These changes in consumer preferences and behavior were caused by a rise in income levels, improvement in the quality of Chinese products and a heightened sense of nationalism.

Challenges

Apple couldn't beat us in China because even they have flaws.

Duan Yongping, founder of Oppo and Vivo⁶²

Although Apple enjoyed years of success internationally, 2016 brought daunting challenges in China. There were several factors that contributed to the weakening of Apple's position in the

⁵⁷ China Internet Watch (6 September 2016) "China smartphone users: iPhone vs Android," <https://www.chinainternetwatch.com/18599/smartphone-2016/> (accessed 12 April 2017).

⁵⁸ Cheung, M.C. (3 January 2017) "Top Trends in China for 2017," eMarketer, <https://www.emarketer.com/Article/Top-Trends-China-2017/1014962> (accessed 14 April 2017).

⁵⁹ Gavekal Dragonomics (4 August 2015) "Are Multinationals Losing The Chinese Consumer?" <http://research.gavekal.com/article/are-multinationals-losing-chinese-consumer> (accessed 14 April 2017).

⁶⁰ Wei, D. and De Morel, J.Y. (15 March 2017) "Nike Put in Hot Seat for False Marketing by Chinese TV Show," Bloomberg, <https://www.bloomberg.com/news/articles/2017-03-15/nike-muji-criticized-for-false-marketing-by-china-consumer-show> (accessed 12 April 2017).

⁶¹ Jourdan, A. and Cai, J., (15 March 2017) "In China brands scramble ahead of '315' consumer day show," Reuters, <http://www.reuters.com/article/china-consumerdiday-idUSL3N1GS2NZ> (accessed 15 April 2017).

⁶² Bloomberg Technology (20 March 2017) "Secretive Billionaire Reveals How He Toppled Apple in China," <https://www.bloomberg.com/news/articles/2017-03-19/secrective-billionaire-reveals-how-he-toppled-apple-in-china> (accessed 22 March 2017).

Chinese market, which arose from political, economic, social, technological and legal grounds. Some of these had to be dealt with internally, while others required further interaction with various stakeholders.

Lack of Innovation

“Only super rich, really high-paid professionals buy iPhones in China -- you’re not talking about lots and lots of people,” said John Zhang, a professor of marketing and faculty director of the Penn Wharton China Center. “That means at some point, you’re not going to be able to grow unless you put out new innovative products to keep your people engaged, which is not the case with Apple.”⁶³

Compared to Samsung and high-end Chinese brands, Apple seemed to be lagging. The iPhone 6 came with a bigger screen that boosted iPhone sales in China, where size mattered. The iPhone 7’s biggest innovations were the lack of a headphone jack and an enhanced camera. In contrast, Chinese companies were engaged in accelerated innovation,⁶⁴ which allowed them to innovate and deploy faster and at lower cost than international brands such as Apple. In this light, the focus was squarely on the iPhone 8’s innovative features, of which the world had very high expectations.

Exploding Batteries

The Chinese media reported that some of the iPhone 6 and 7 series devices caught fire while recording videos.⁶⁵ Another battery issue resulted in the China Consumers Association sending a series of letters to Apple about user complaints related to batteries and shutdown malfunctions. In response to a letter sent on November 15, 2016, Apple yet again denied most of the issues.⁶⁶ Although the public relations fiasco was not as serious as that experienced by Samsung with its exploding batteries, it surely did not help Apple’s image.

iTunes Ban in China

Part of Apple’s profits came from services, such as licensing, selling products via its iTunes platform, customer care programs offered with the purchase of devices and Apple Pay. The services segment performed very well, with 22% year-on-year growth in 2016. App store revenues enjoyed a 37% rise.⁶⁷ However, in April 2016, the State Administration of Press, Publication, Radio, Film and Television banned the iBooks Store and iMovies from China. It seemed Apple had become another victim of the recurring Chinese policy of restricting overseas online services. Chinese consumers had been denied access over time to YouTube and other Google services, Facebook, Dropbox and Twitter, among many others. The removal of the iBooks store and iMovies marked the beginning of the decline of Apple’s online services in China and posed the risk of undermining Apple’s ecosystem in the country. As President Xi Jinping had prioritized “cyber sovereignty” on his to-do list, rules were becoming progressively stricter. The latest policies, effective as of June 1, 2017, regulated the news that could be produced by and presented on online platforms and required engaging government-approved

⁶³ Booton, J. (28 April 2016) “This is why Apple’s sales are tanking in China,” <http://www.marketwatch.com/story/apple-is-performing-terribly-in-china-but-its-not-because-of-the-economy-2016-04-27> (accessed 19 January 2017).

⁶⁴ Williamson, P.J. and Yin, E. (Summer 2014) “Accelerated innovation: the new challenge from China,” *MIT Sloan Management Review*, <http://sloanreview.mit.edu/article/accelerated-innovation-the-new-challenge-from-china/> (accessed 30 May 2017).

⁶⁵ Brown, A. (22 October 2016) “Apple iPhones are ‘now exploding’ – should you be worried,” *Express*, <http://www.express.co.uk/life-style/science-technology/719587/Apple-iPhone-Explode-Battery> (accessed 14 January 2016).

⁶⁶ Kelly, G. (2 December 2016) “Apple Warned iPhones Have a Serious Problem,” *Forbes*, <http://www.forbes.com/sites/gordonkelly/2016/12/02/china-iphone-battery-warning-to-apple/#32df138a7cf7> (accessed 14 January 2017).

⁶⁷ DM Martins Research (6 December 2016) “Apple: 2017 Will Be The Year Of Services,” *SeekingAlpha*, <http://seekingalpha.com/article/4028543-apple-2017-will-year-services> (accessed 14 January 2017).

editorial staff. Critics alleged that new security laws introduced over the past year could keep overseas businesses out of multiple industries in China.⁶⁸

To maintain its presence in China, Apple had to comply with local censorship and data-storage policies. In December 2016, Apple was asked to remove the Chinese version of the *New York Times* app from the iTunes store to comply with China's Cyberspace Administration rules, which banned apps from "...publishing or disseminating prohibited information or content..." or "...engaging in activities prohibited by laws and regulations such as endangering national security, disrupting social order and violating the legitimate rights and interests of others." Although the app was published by the *New York Times*, whose website had been blocked in China since 2012, Apple's compliance with the Chinese government's rules revealed a crack in its image as a custodian of free speech and liberty. Curiously, earlier that year, Apple had strenuously opposed an FBI request to unlock a terrorist's iPhone, stating that doing so would be "...setting a dangerous precedent that threatens everyone's civil liberties."⁶⁹

Apple Pay

China was the number-one user of mobile payments in the world in 2017; 40% of connected consumers used mobile payments on a weekly basis in a market estimated to be worth US\$5.5 trillion.⁷⁰

Apple had a well-designed strategy for launching Apple Pay in China in partnership with top banks and merchants. A year after the introduction of Apple Pay in China, however, it was still not widely used. The number of users of Apple Pay dropped from the original figure of those who had initially signed up, and user activity had dropped to an average of once every three months.

Alipay from Alibaba and WeChat Pay from Tencent were the two most recognized mobile and online payment gateways in China. These two systems had been in the market for a few years and were popular, as they catered to all smartphones, including the iPhone. Unlike Apple Pay and other NFC (Near Field Communication) methods, the two Chinese gateways required no special equipment on the merchant side. As they used QR codes to process payments, systems implementation costs were very low. They also functioned as digital wallets, enabling consumers to send money to one another, split restaurant bills, etc. They were also connected to the biggest Chinese e-commerce platforms (including Taobao and WeChat), and service providers such as the Didi Chuxing car service, charities, public services, travel agencies, etc.

Anti-U.S. Sentiment in China

Trump had irritated the Chinese in the beginning of his presidency. The first issue came with a phone call to Taiwan President Tsai Ing-wen, which showed Trump's disregard for the established "One China" policy. Trump also showed dissatisfaction with China's military activities in the South China Sea, insufficient cooperation in dealing with North Korea and the unfavorable U.S.-Chinese trade balance. To spice up the situation, he chose Peter Navarro, the author of the book *Death by China*, to head the White House National Trade Council.⁷¹ In

⁶⁸ Reuters (2 May 2017) "China tightens rules on online news, network providers," CNBC, <http://www.cnbc.com/2017/05/02/china-tightens-rules-on-online-news-network-providers.html> (accessed 10 May 2017).

⁶⁹ Haas, B. (5 January 2017) "Apple Removes New York Times app in China," *The Guardian*, <https://www.theguardian.com/world/2017/jan/05/apple-removes-new-york-times-app-in-china> (accessed 15 March 2017).

⁷⁰ Luo, J. and Chen, L. (22 March 2017) "Apple Faces Tough Competition in China's US\$5.5 Trillion Mobile Payments Market," Bloomberg News, <https://www.bloomberg.com/news/articles/2017-03-21/apple-faces-tough-competition-in-china-alipay-or-wechat-pay> (accessed 29 March 2017).

⁷¹ Fox News (15 January 2017) "China Hits Back At Trump, Says One China Policy Is 'Non-Negotiable,'" <http://www.foxnews.com/politics/2017/01/15/china-hits-back-at-trump-says-one-china-policy-is-non-negotiable.html> (accessed 16 January 2017).

economic terms, Trump was considering introducing tariffs on exports from China, believing such tariffs would bring manufacturing jobs back to the U.S. This tension threatened possible retaliatory measures against American companies operating in China.

Price

The iPhone was still at a price range beyond the average consumer's reach. It was Apple's strategy to keep prices high, but at the same time it tried to reach less affluent customers by launching lower-priced models, such as the iPhone 5C. However, the phones that competitors offered had superior technical specifications, offered similar or better features and were priced lower than the iPhone. Although the incentives for buying an iPhone were gradually fading, Apple enjoyed brand loyalty and status as a provider of high-end products. In this light, Apple hoped that the iPhone 8 would be a game-changer in regaining its initial value proposition.

Sales and Distribution in China

Traditionally, Chinese brands innovated with product lines, but more recently they had also focused on developing better business models along their value chains. Sales and distribution strategies were first challenged by Xiaomi, which in earlier stages had great success in selling online. It then redefined its approach, which worked well in large cities, and extended its sales offline, particularly in smaller cities where customers preferred in-person advice and physical product demonstrations.

Lenovo, unlike Xiaomi, relied on traditional points of sale of carriers, with subsidized smartphone purchases. However, as subsidies declined, Lenovo had to rethink its sales strategy and experiment with new sales channels. Oppo and Vivo created their own distribution networks and built good relationships with stores across China, where three-quarters of smartphone sales took place. By offering attractive commissions for high-end models, they successfully mobilized tens of thousands of private shop owners.⁷² Local store managers offered Oppo R9 Plus to their customers, as it provided bigger profits. Merchants also promoted Oppo and Vivo on their WeChat accounts—a Chinese social-media platform—to attract more customers to their shops and, in so doing, built up the images of both brands. This strategy harnessed the spending power of rural society, where Apple's higher price tag was still a barrier. As of June 2016, Oppo was sold at around 240,000 private stores—six times more locations than McDonald's franchises worldwide—and Vivo in about 120,000 private stores. Apple had only 40 stores in China, mostly located in larger cities, limiting greatly its retail presence and after-sales services.⁷³

iOS Update Issues

Apple was well known for stable computer operating systems and hand-held devices. However, it had to intensify its engagement in the OS innovation battle against Google's Android, which, thanks to its openness, was constantly enhanced by external brands, particularly ones from China. Apple was also under pressure to make iOS more secure against hackers and malware. Constant iOS innovation demanded more frequent releases of updates, which contributed to an increase in the number of bugs. The IOS 10.2.1 version, for example, caused many problems, such as the inability to search for cellular networks, malfunctions of the camera app, Touch ID failure, Bluetooth connection issues, contact news notification failure, address book problems,

⁷² Gao, Y. (23 November 2016) "How Apple lost China to Oppo and Vivo" Livemint, <http://www.livemint.com/Companies/6zVARoFu1ju4THl2oMQHNP/How-Apple-lost-China-to-two-unknown-local-smartphone-makers.html> (accessed 25 March 2017).

⁷³ Ibid.

wi-fi connectivity issues, jamming in headphone mode, an inability to update certain apps, battery drainage and premature iPhone shut-down once the battery charge reached about 30%.⁷⁴

Conclusion

The Economist described Apple as “an orchestrator and integrator of technologies, unafraid to bring in ideas from outside but always adding its own twist.”⁷⁵ The iPod was brought to life with the help of an outside consultant whom Apple had hired for that particular task. iTunes was acquired and revamped, but not invented, by Apple. The iPhone was conceived as a result of the failure of Apple trying to develop a music phone with Motorola. Apple was glorified for its creativity, but it was usually engaged in “network innovations” that relied on a network of external experts, while ensuring its products were labeled as household brands.⁷⁶

The announced partnerships with Goldwind and Didi Chuxing proved that Apple’s expert network embraced giants in the new line of industries with which Apple wanted to build its future. In January 2017, it was reported that Apple might be involved in a joint investment with Foxconn, which was considering a US\$7 billion financing for a flat-panel-screen factory in the U.S that would create 30,000 to 50,000 jobs. Since the factory was to produce large panel screens, it was speculated that Apple would start manufacturing TV sets.⁷⁷ That would add to its portfolio over and above power-generating windmills and self-driving vehicles. It seemed Apple was changing its primary focus in order to diversify both its product lines and markets. However, there were challenges ahead. New products such as cars and wind farms entailed high degrees of complexity in unfamiliar domains.

The Chinese government strongly encouraged innovation with a view to communicating to the world that China was being transformed into an innovative nation. The electronics industry was redefining its business models, innovating its products and rendering a new image of how they and the country were perceived worldwide.⁷⁸ This paradigm shift was about to bring China back to its glorious past as a great innovator.

In comparison, on the eve of the iPhone’s tenth anniversary, Apple did not have much to show in terms of game-changing innovations. It had communicated plans to generate a bigger portion of its revenue from services, but had given no specifics as to what services segments would instigate the proposed revenue growth. To make matters worse, some of its major services were not available in China.

The iPhone 8 was mysteriously expected to initiate a new iPhone super-cycle, but China, one of its main markets, was already saturated with fresh, innovative, aggressive and rapidly growing local brands. Chinese manufacturers introduced smartphones that outperformed the iPhone at lower prices. Some Apple services and apps had become unavailable in China, and it seemed more would be blocked in the future. The iPhone had lost its best-seller position in the Chinese market to Oppo.

⁷⁴ Elizabeth (26 February 2017) “Apple iOS Problems: Touch ID, Bluetooth, Contacts, Battery Drain, Grayscale Images,” Apple Toolbox, <http://appletoolbox.com/2017/01/ios-10-2-1-problems-touch-id-contacts-battery-bluetooth-images-apple/> (accessed 1 March 2017).

⁷⁵ Kourdi, J. (2009) *Business Strategy: A guide to taking your business forward*, Profile Books Ltd: London.

⁷⁶ Ibid.

⁷⁷ Lesfing, K. (23 January 2017) “There’s speculation that Apple could build a TV – because of Trump,” *Business Insider*, <http://www.businessinsider.com/apple-foxconn-could-build-display-plant-in-united-states-2017-1> (accessed 24 January 2017).

⁷⁸ Shepperd, W. (25 May 2016) “China’s Huawei ‘Growing Up’ To Become The World’s No.1 Smartphone Brand,” *Forbes*, <https://www.forbes.com/sites/wadeshepard/2016/05/25/chinas-huawei-growing-up-to-become-the-worlds-number-one-smartphone-brand/#98b8b5f3adff> (accessed 27 February 2017).

The good news was that 75% of Chinese consumers said that they would buy a new smartphone in 2017, higher than 2016's 61% figure. Although Apple and Samsung had previously been able to benefit from increased demand, Chinese smartphones were increasingly popular in the mid- and premium-price categories.⁷⁹ If China was to be the "fuel" for Apple's growth, Apple had to regain its leading position as a top smartphone seller, ensure the successful launch of the iPhone 8, shield the iTunes ecosystem from tight government regulations and prevent users from switching to local Chinese platforms.

What measures should Apple take to compete with Chinese smartphone makers while following its diversification strategy of exploring product and services opportunities in other industries in which it had no prior experience? How could the company leverage its platform to harness the growing IoT infrastructure, while ensuring integration and compatibility across a host of new platform layers, such as cars and electric grids? How could Apple regain its footing in the Chinese market?

⁷⁹ Vanian, J. (4 January 2017) "Here's Why the Stagnant Smartphone Market May Rebound in 2017," *Fortune*. <http://fortune.com/2017/01/04/china-smartphone-market-accenture/> (accessed 1 March 2017).

EXHIBIT 1: MARKET VALUE MARCH 2017

Company	Market Value (billion US\$)
Apple	800+
Alphabet (Google parent company)	653
Microsoft	533
Exxon Mobil	348

Chart based on:

Source: <http://innpoland.pl/134777.wycena-apple-przekroczyla-psychologiczna-bariere-tak-dobrze-nie-bylo-nawet-w-czasach-wielkich-premier-jobsa> , (accessed 12 May 2017)

EXHIBIT 2: RETHING TECHNOLOGY FORECAST VS RESULTS

Device	Calendar 2017 Q1 Unit Sales in millions (est.)	% Change from Calendar 2016 Q1 (est.)	Calendar 2017 Q1 Unit Sales Results	% Change from Calendar 2016 Q1	Calendar 2017 Q1 Est. % error
iPad	9.5	-7.33%	8.922	-12.96%	6.48%
iPhone	51.53	0.66%	50.763	-0.84%	1.51%
Mac	4.2	4.12%	4.199	4.09%	0.02%

Metric	Calendar 2017 Q1 Results (est.)	% Change from Calendar 2016 Q1 (est.)	Calendar 2017 Q1 Results	% Change from Calendar 2016 Q1	Calendar 2017 Q1 Est. % error
Apple Net Sales \$billions	52.22	3.28%	52.896	4.63%	-1.28%
Gross Margin	39.00%	-1.02%	38.93%	-1.21%	0.19%
Operating Income \$billions	13.86	-0.88%	14.097	0.79%	-1.65%
Operating Margin	26.55%	-4.03%	26.65%	-3.67%	-0.37%

Source: https://seekingalpha.com/article/4069463-apples-china-problem?app=1&auth_param=muvpr:1cgngn:3644e8b6ff53622ad45a068bef8eec86&uprof=14&dr=1,

EXHIBIT 3: GREATER CHINA QUARTERLY REVENUES



Source: https://seekingalpha.com/article/4068070-apple-earnings-china-hiccups?app=1&auth_param=muvpr:1cghv4n:c104e0ab844510625f2fa82ee2133251&upr_of=14&dr=1

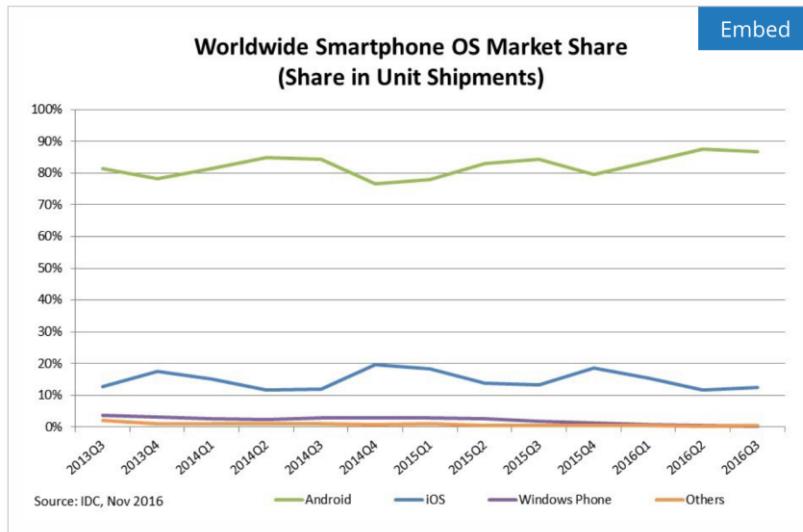
EXHIBIT 4: WORLDWIDE SMARTPHONE OS MARKET SHARE (SHARE IN UNIT SHIPMENTS)

Period	Android	iOS	Windows Phone	Others
2015Q4	79.6%	18.7%	1.2%	0.5%
2016Q1	83.5%	15.4%	0.8%	0.4%
2016Q2	87.6%	11.7%	0.4%	0.3%
2016Q3	86.8%	12.5%	0.3%	0.4%

Source: IDC, Nov 2016

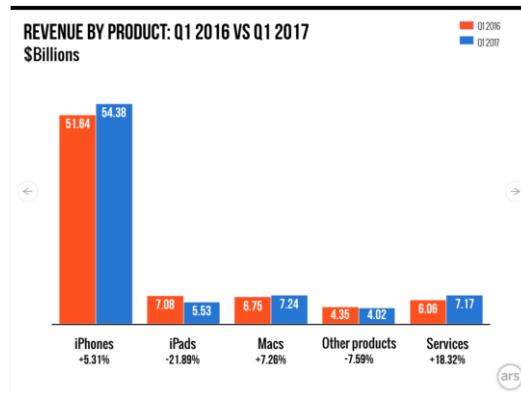
Source: <http://www.idc.com/promo/smartphone-market-share/os>

**EXHIBIT 5: WORLDWIDE SMARTPHONE OS MARKET SHARE
(SHARE IN UNIT SHIPMENTS)**



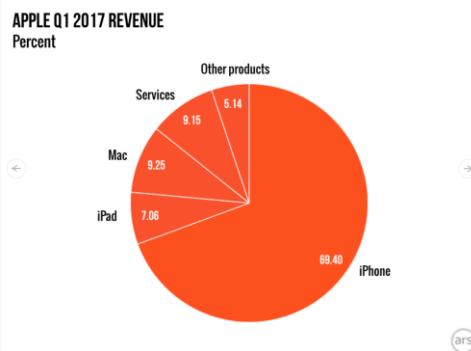
Source: <http://www.idc.com/promo/smartphone-market-share/os>

EXHIBIT 6: APPLE Q1 2017 REVENUE BY PRODUCT



Source: <https://arstechnica.co.uk/apple/2017/02/apple-sets-revenue-and-iphone-sales-records-in-q1-of-2017/>

EXHIBIT 7: APPLE Q12017 REVENUE %



Source: <https://arstechnica.co.uk/apple/2017/02/apple-sets-revenue-and-iphone-sales-records-in-q1-of-2017/>

EXHIBIT 8: REVENUE & NET INCOME



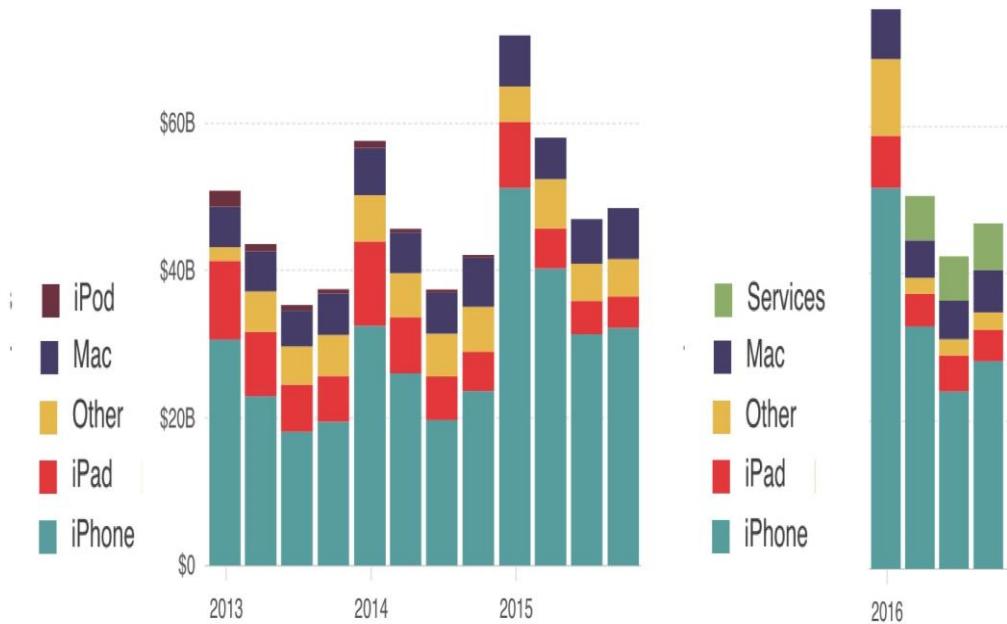
Source: <http://listings.findthecompany.com/l/8500602/Apple-Inc-in-Cupertino-CA>

EXHIBIT 9: APPLE REVENUE VS IPHONE REVENUE 2013-2016



Source: <https://dazeinfo.com/2016/04/29/apple-iphone-sales-q2-fall-survival-analysis/>

EXHIBIT 10: REVENUE BREAKDOWN BY PRODUCT



Source: <http://www.marketwatch.com/story/apple-sacrifices-innovation-for-midtier-market-2016-03-23>

EXHIBIT 11: APPLE'S RECENT ACQUISITIONS

Search ▾ Analytics & Research ▾ Productivity ▾ CBI Labs ▾ You ▾ Help Search companies and investors

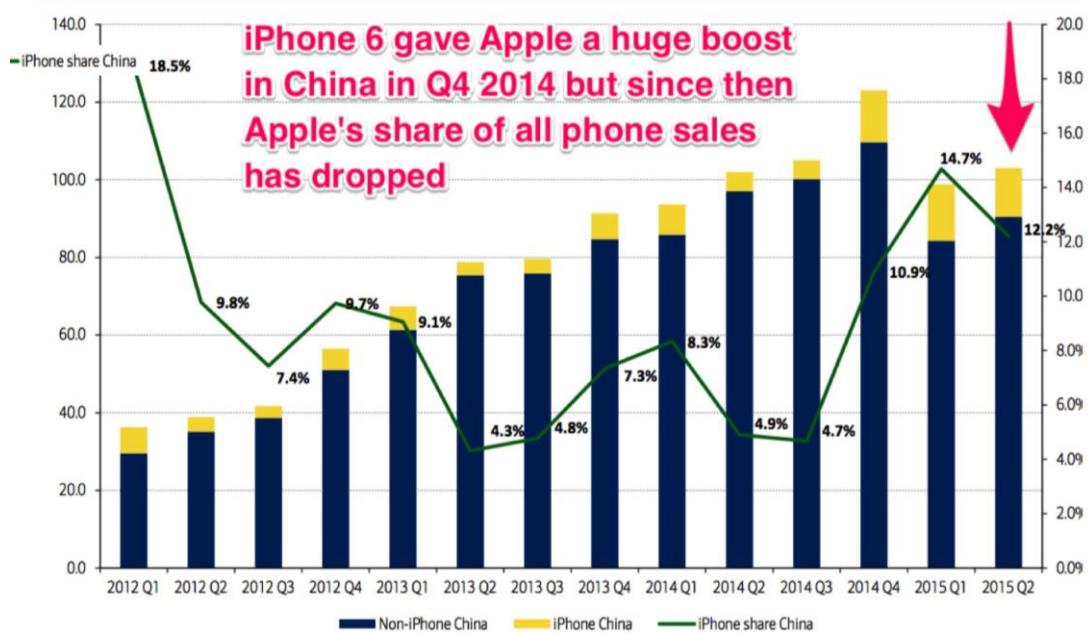
Data Charts Showing 1-25 out of 78 results (totaling \$1.1bn)

Excel Visualize Salesforce Add to list Save columns Default Template

<input type="checkbox"/>	Company	URL	Company Description	Round	Date
<input type="checkbox"/>	Didi Chuxing	xiaojukeji.com	Didi Chuxing, formerly Didi Kuaidi, was formed ...	Series G	05/13/2016
<input type="checkbox"/>	FlyBy Media	flybymedia.c...	FlyBy Media, formerly Ogmento, is a global pub...	Acquired	01/29/2016
<input type="checkbox"/>	LearnSprout	learnsprout.c...	LearnSprout aims to make education data univ...	Acquired	01/28/2016
<input type="checkbox"/>	Emotient	emotient.com	Emotient is the leading authority in facial expre...	Acquired	01/07/2016
<input type="checkbox"/>	Faceshift	faceshift.com	Faceshift produces facial motion tracking softw...	Acquired	11/24/2015
<input type="checkbox"/>	LegbaCore	legbacore.com	LegbaCore focuses on security at the darkest l...	Acquired	11/04/2015
<input type="checkbox"/>	Perceptio		Perceptio is a startup developing technology to...	Acquired	10/06/2015
<input type="checkbox"/>	Vocal IQ	vocaliq.com	VocalIQ is a spin-out company from the Spoke...	Acquired	10/02/2015
<input type="checkbox"/>	Mapsense	mapsense.co	Mapsense is building a user-friendly platform fo...	Acquired	09/17/2015
<input type="checkbox"/>	metaio	metaio.com	metaio develops software products for visual in...	Acquired	05/28/2015
<input type="checkbox"/>	Coherent Navigation	coherentnavi...	Coherent Navigation develops services and sol...	Acquired	05/17/2015
<input type="checkbox"/>	LinX Computational Imag...	linximaging.c...	Linx imaging brings revolution to mobile photog...	Acquired	04/14/2015
<input type="checkbox"/>	FoundationDB	foundationd...	FoundationDB is a new-generation database b...	Acquired	03/24/2015
<input type="checkbox"/>	Camel Audio	camelaudio....	Camel Audio is known for its range of plug-ins, ...	Acquired	02/24/2015
<input type="checkbox"/>	Semetric	musicmetric....	Semetric, dba Musicmetric, tracks online trend...	Acquired	01/21/2015

Source: <http://mashable.com/2016/05/16/apple-venture-capital/#ub4QEWIWCgqY>

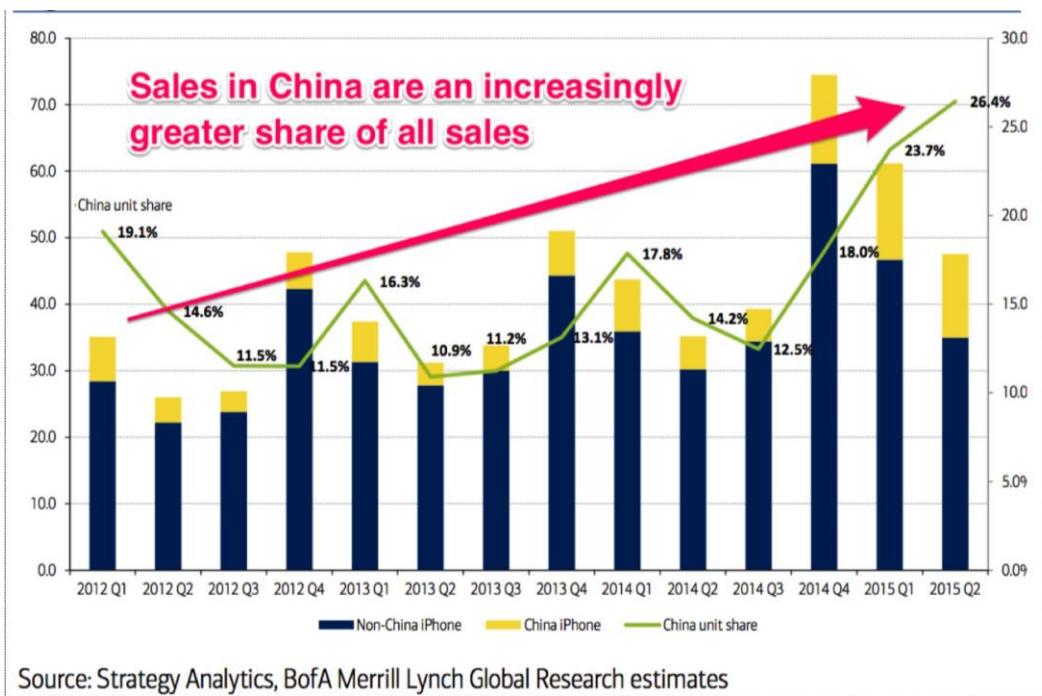
EXHIBIT 12: IPHONE VS. TOTAL SMARTPHONE UNITS IN CHINA



Source: Strategy Analytics, BofA Merrill Lynch Global Research estimates

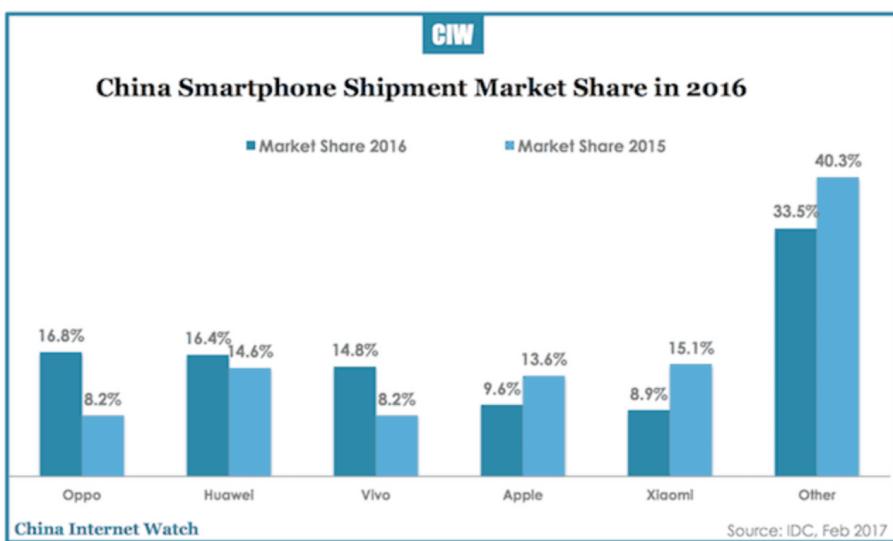
Source: <http://uk.businessinsider.com/apple-iphone-sales-in-china-2015-8>

EXHIBIT 13: CHINA VS. TOTAL IPHONE UNITS



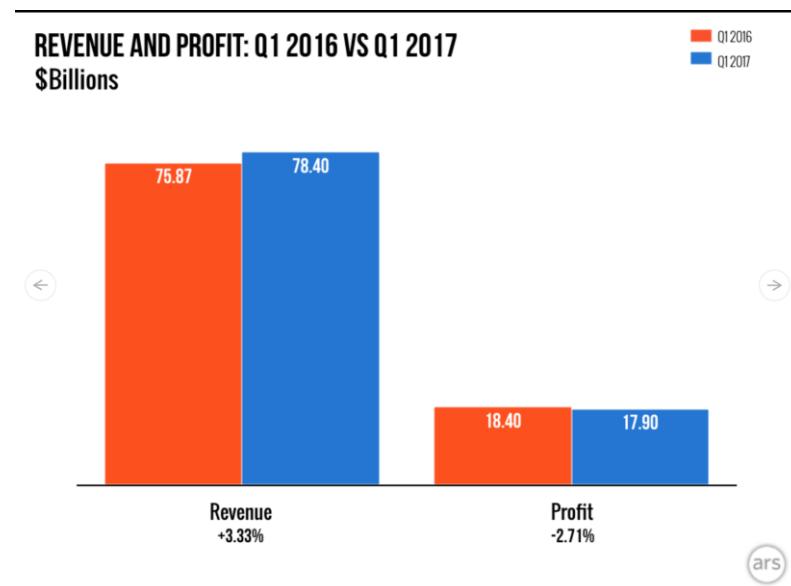
Source: <http://uk.businessinsider.com/apple-iphone-sales-in-china-2015-8>

EXHIBIT 14: CHINA SMARTPHONE SHIPMENT MARKET SHARE IN 2016



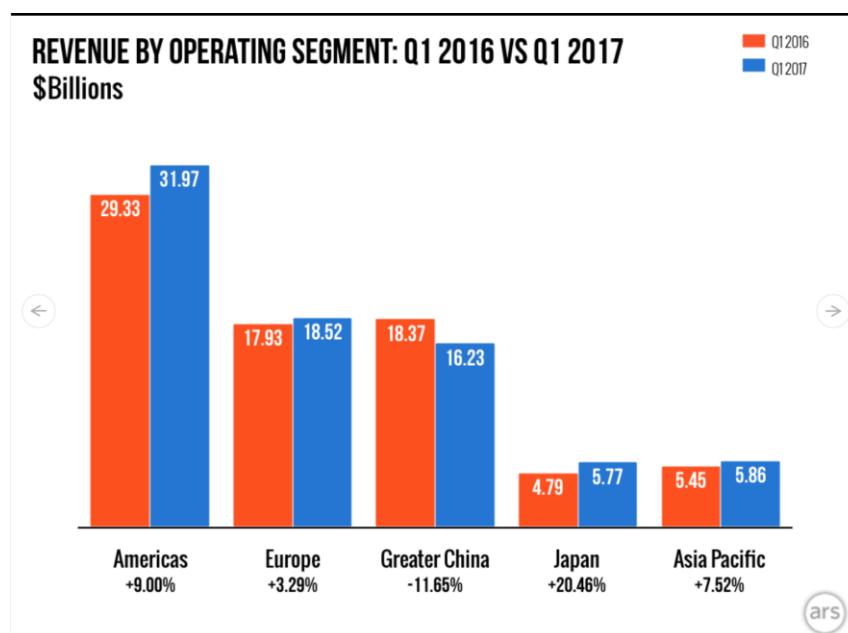
Source: <https://www.chinainternetwatch.com/19756/smartphone-shipment-2016/>

EXHIBIT 15: REVENUE AND PROFIT Q1 2016 VS Q1 2017



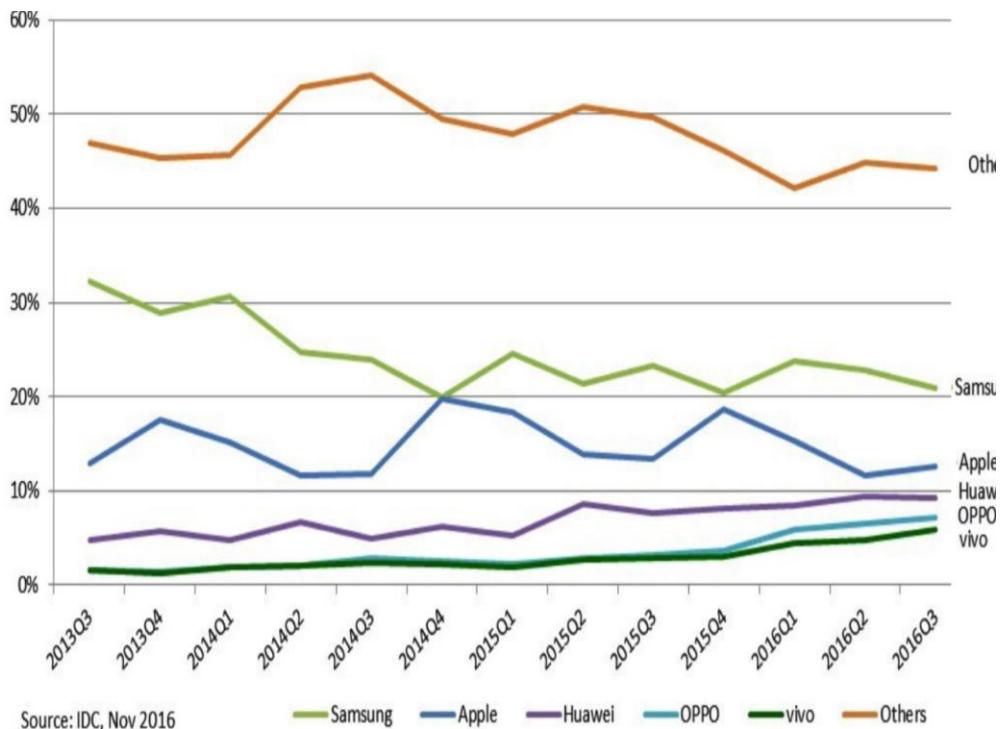
Source: <https://arstechnica.co.uk/apple/2017/02/apple-sets-revenue-and-iphone-sales-records-in-q1-of-2017/>

EXHIBIT 16: REVENUE BY OPERATING SEGMENT Q1 2016 VS Q1 2017



Source: <https://arstechnica.co.uk/apple/2017/02/apple-sets-revenue-and-iphone-sales-records-in-q1-of-2017/>

**EXHIBIT 17: WORLDWIDE SMARTPHONE VENDOR MARKET SHARE
(SHARE IN UNIT SHIPMENTS)**

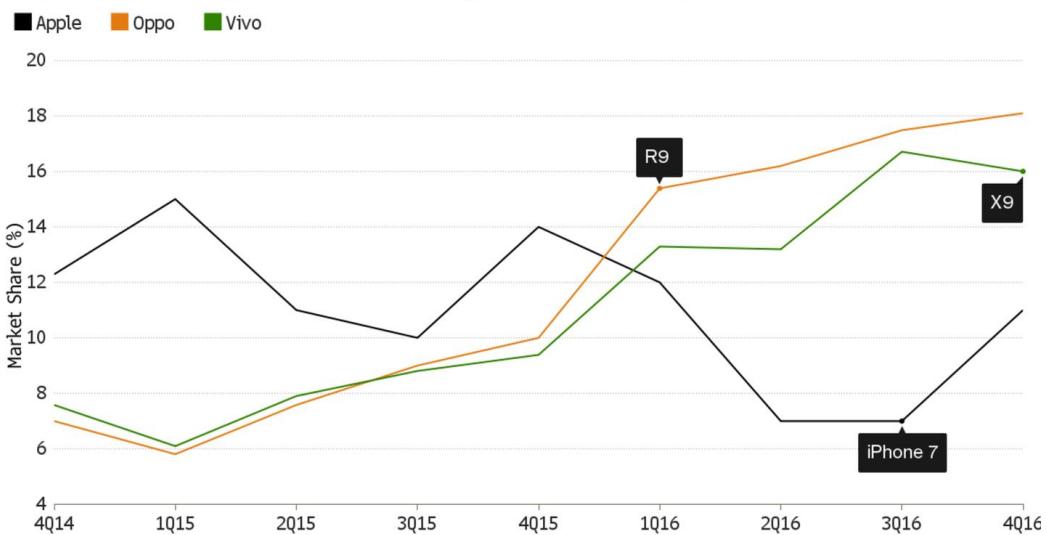


Source: <http://www.idc.com/promo/smartphone-market-share/vendor;jsessionid=82EC0C1445631836AA9A836094920B75>

EXHIBIT 18: OUTGUNNED IN CHINA 2016

Outgunned in China

Apple's been ceding market share to Oppo's and Vivo's flagship models since 2015



<https://www.bloomberg.com/news/articles/2017-03-19/secretive-billionaire-reveals-how-he-toppled-apple-in-china>

EXHIBIT 19: TOP FIVE SMARTPHONE VENDORS IN CHINA 2016 (UNITS IN MILLIONS)

Period	Samsung	Apple	Huawei	OPPO	vivo	Others
2015Q4	20.4%	18.7%	8.2%	3.6%	3.0%	46.2%
2016Q1	23.7%	15.4%	8.4%	5.9%	4.4%	42.2%
2016Q2	22.8%	11.7%	9.3%	6.6%	4.8%	44.9%
2016Q3	21%	12.5%	9.3%	7.1%	5.9%	44.2%

Source: IDC, Nov 2016

Source: <https://techcrunch.com/2017/02/05/oppo-topped-chinas-smartphone-market-in-2016/>

EXHIBIT 20: GLOBAL MOBILE APP REVENUE BY MARKET



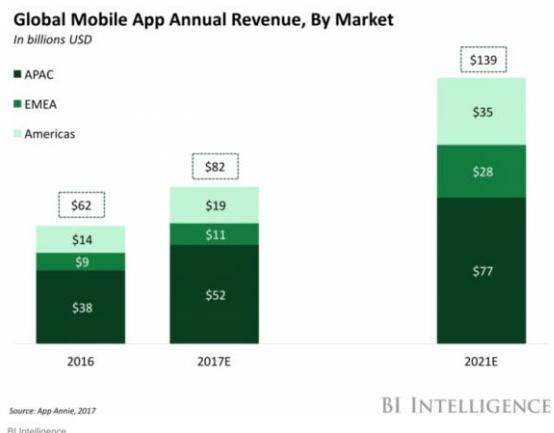
Source: <https://newzoo.com/insights/trend-reports/a-comprehensive-guide-to-chinas-android-app-store-ecosystem/>

EXHIBIT 21: ANDROID STORES VS APPLE STORES REVENUE

<u>Apple Store</u>	<u>Android Stores</u>	<u>Year</u>
USD 34 billion	USD 27 billion	2016
USD 40 billion	USD 41 billion	2017
	<u>Third party Android Stores</u>	
	USD 10 Billion	2016
	USD 36 Billion	2021

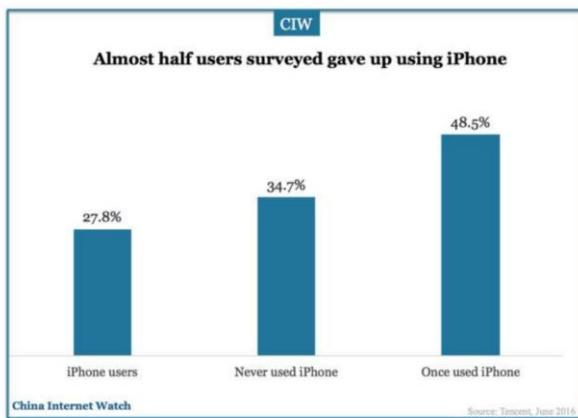
Source: <http://www.cnbc.com/2017/03/29/app-annie-2017-spending-projections-android-apple-app-store.html>

EXHIBIT 22: GLOBAL MOBILE APP REVENUE BY MARKET



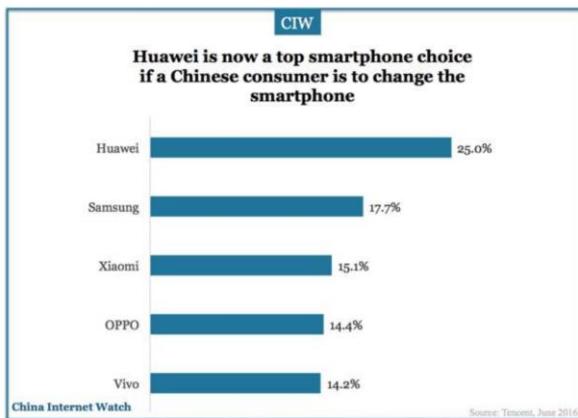
Source: <http://www.businessinsider.com/android-app-revenue-on-track-to-beat-ios-in-2017-2017-3?IR=T>

EXHIBIT 23: PERCENTAGE OF USERS WHO GAVE UP USING IPHONE



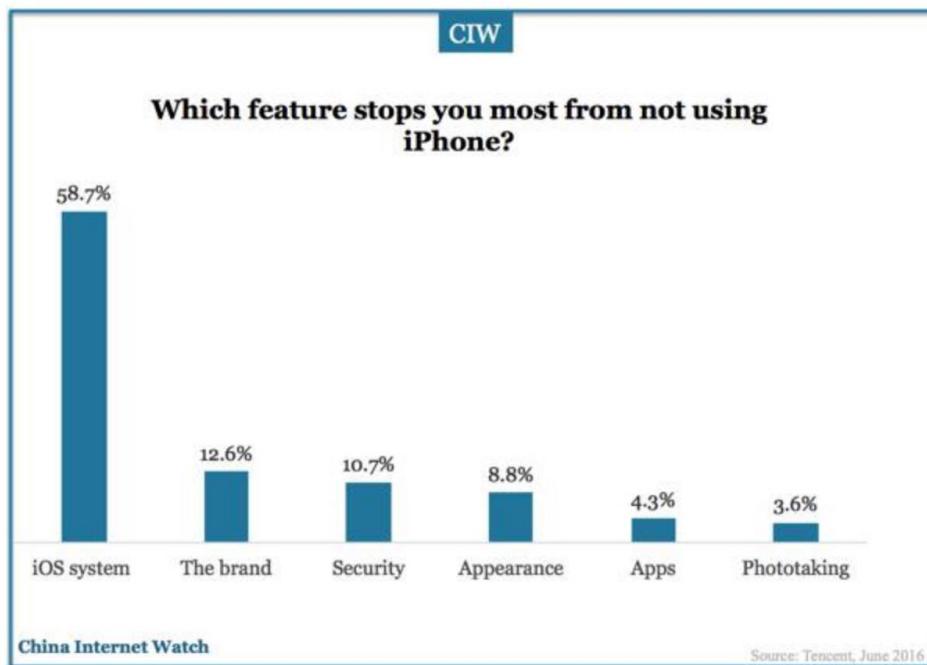
Source: <https://www.chinainternetwatch.com/17608/iphone-survey/>

EXHIBIT 24: TOP CHOICES BY CHINESE USERS



Source: <https://www.chinainternetwatch.com/17608/iphone-survey/>

EXHIBIT 25: REASONS WHY USERS GIVE UP IPHONE



Source: <https://www.chinainternetwatch.com/17608/iphone-survey/>

EXHIBIT 26: CHINESE BRANDS TOP SELLING SUVS

Local brands now have most of the top-selling SUVs
Top 10 sport utility vehicle models, ranked by sales volume

Company	Model	Price range (RMB)	Units sold (1H15)
Great Wall	Haval H6	96-141,800	172,006
Shanghai Volkswagen	Tiguan	200-294,800	131,563
JAC Motors	Refine S3	66-84,800	91,856
Chang'an	CS35	79-92,900	88,754
Chang'an	CS75	109-143,800	86,909
BAIC	S2	59-69,800	84,215
Great Wall	Haval H2	99-120,800	77,158
Dongfeng Nissan	X-Trail	208-269,800	70,253
Chang'an Ford	Kuga	194-275,800	68,396
Shanghai GM	Buick Envision	270-349,900	65,851

CEIC, ChinaAutoWeb

Source: <http://research.gavekal.com/article/are-multinationals-losing-chinese-consumer>