



APPLE IN CHINA

**An Analysis of Organizational Structure and a
Proposal for the Future**

By Doug Guthrie



“

We're not just someone who's here to access the market. We've created almost 5 million jobs in China. I'm not sure there are too many companies, domestic or foreign, who can say that. [...] There's deep roots here. I think very highly of the country and the people in it. We're here to stay.

”

— Apple CEO Tim Cook to Caixin, March 2017

EXECUTIVE SUMMARY

One of the interesting puzzles of Apple in China is that, while Apple does a great deal to “give back” to China—creating millions of jobs in manufacturing, teaching innovation in a very diverse supply chain, investing in environmental sustainability, and creating a new sense of community through our Retail stores — we receive relatively little credit for these contributions. This is not a simple PR or Corporate Communications issue. Rather, the problem is closely tied to Apple’s culture and organizational structure in China. This paper attempts to bridge some of the gaps in that narrative. We attempt to provide a rationale for why the perception of Apple in China is negative and provide some suggestions for what we can do about it.

Take, for example, the view of Apple’s corporate social responsibility in China. While Apple has made very significant contributions in the area of Environmental Sustainability (ES), our contributions are not well recognized in this area. And where Apple very likely has one of the most aggressive Supplier Responsibility (SR) programs in China, there is little recognition of our efforts. Intel is widely recognized in China as the leader in SR with respect to multinational corporations, yet Intel’s SR function and activity is significantly less than Apple’s by virtually every measure. The State-Owned Assets Supervision and Administration Corporation (SASAC) and the Chinese Academy of Social Sciences (CASS)—the most influential social science organization in China—undertake an annual study of Corporate Social Responsibility (CSR) in China. The SASAC is an extremely important ministry-level organization in China’s economy. As the single-largest shareholder of many Joint Stock companies, including China Mobile and China Telecom, SASAC’s influence runs deep. In 2016 Apple scored a surprisingly weak 25.3 (on a scale of 100) on the CSR survey, the worst of any large foreign company, while competitors like Samsung and Intel were among the top 10 for foreign companies, both with scores of 80+. Apple’s 2016 score was a slight improvement from the 22.5 rating of 2015 (also, the worst among large foreign corporations).

How can this be? From one perspective, the problems we are facing in China stem from a serious issue of how Apple presents itself in China. On this front, we have both a “hardware” and a “software” problem. With respect to “hardware,” the Chinese government is not familiar with Apple’s organizational structure in China. Perhaps it is more accurate to say it is all too familiar, though our structure signals something that does not fit with our commitment to China.

From the early years of China’s economic reforms, the government has focused on relationships that bring technology to Chinese companies, and the primary organizational forms that deliver foreign technology are Joint Ventures (JVs)

and (manufacturing) Wholly Foreign Owned Enterprises (WFOEs) that are engaged in close collaboration with Chinese partners. However, since its entry into China in 2001, Apple has operated outside of these organizational forms, as the pressure for these structures had waned with China’s entry into the World Trade Organization (WTO). This approach worked well during the Hu Jintao and Wen Jiabao regime (2002-12), but there is strong evidence to suggest it will not work with the current administration under President Xi Jinping (2012-present). Evidence of the pressure for a return to the kinds of organizational structures that dominated the pre-WTO era abounds.

While these “two legs” — organizational structure and culture (hardware and software) — are critical for understanding Apple’s risk in China, there is a third dimension that justifies, even requires, disrupting the current status quo: current political realities in China and geopolitical realities more broadly. China’s political situation changed dramatically in the Fall of 2012, when Xi Jinping took his position as China’s paramount leader. President Xi’s attitude toward foreign multinationals has proven to be very different from that of his immediate predecessor, Hu Jintao. Based on our analysis, from Xi Jinping’s perspective, foreign companies — particularly technology companies — that are not “giving back” to Chinese society are going to find it increasingly difficult to operate in China. The new legislative environment, anchored by the new Dispatch Labor Regulations and the Cybersecurity Law ensure this. However, it is crucial to recognize here that “giving back” is not simply an issue of quiet Corporate Social Responsibility. “Giving back” in today’s environment is fundamentally tied to issues of business partnership, teaching innovation and management practice, and technology transfer. And Xi’s position in China is only a symptom or a mirror of the broader nationalist and populist issues that are sweeping the globe.

All of these issues — our organizational structure, our culture, and the current political environment in which we operate — have converged to place Apple at great risk in Chinese society today. In this document, we explain in a detailed way where this risk comes from and advance some proposals for how we might put forth a better profile for what Apple contributes to Chinese society.

One of the interesting puzzles of Apple in China is that, while Apple does a great deal to “give back” to China—creating millions of jobs in manufacturing, teaching innovation in a very diverse supply chain, investing in environmental sustainability, and creating a new sense of community through our Retail stores — we receive relatively little credit for these contributions. This is not a simple PR or Corporate Communications issue. Rather, the problem is closely tied to Apple’s culture and organizational structure in China. This paper attempts to bridge some of the gaps in that narrative. We attempt to provide a rationale for why the perception of Apple in China is negative and provide some suggestions for what we can do about it.

Key Moments for Apple in China

China, the WTO and Apple

2001

On Dec. 11, 2001, China entered the WTO, becoming its 143rd member.

Apple's Post-WTO China

Apple comes to China, grow its sales and manufacturing presences.

2002 -
2010

Between 2001 and 2010, China's economic growth was significant in terms of GDP, foreign FDI, manufacturing.

Apple Growth in China

Apple grows its manufacturing operation, develops supplier networks and expands to handle iPhone, iPad, etc.

2011 -
2014

President Xi Jinping takes office in November 2012 and presses to revert back to pre-WTO economic approaches.

A New Vision at Apple

Tim Cook becomes CEO of Apple in August 2011. Apple breaks through in China in 2014, exhibiting a level of popularity and profitability previously unseen.

2015 -
2017

President Xi aggressively presses foreign companies to return to JVs and WOFEs to complete tech transfers.

Testing China's Tech Transfer Structure

Apple continues its path forward with suppliers but begins to get pushback from China, which uses legal maneuvers to pressure Apple to comply.

Apple's Growing Challenges in China: What has Changed and Why?





| THE CONSUMER VIEW |

Since Apple entered China in 2001, the company built a business that is anchored by what is among the most complex and sophisticated supply chains in the world. In addition, over the course of more than a decade of business in the world's most populous nation, Apple has become an iconic brand in China, and, by some reports, it is now the most coveted luxury brand in the country.* As with other places across the globe, Apple fans will queue for long hours outside of Apple stores waiting for the opportunity to lay their hands on the newest Apple product.

The last several years have seen Apple products rise in popularity; however, 2014 took the promise of Apple products in China to another level. The iPhone 6 and iPhone 6 Plus were the top-selling smartphones in China, and the company reported USD16.1 billion in sales, up by 70 percent, over the three months ending December 2015. The good news capped a year that had seen year-on-year quarterly growth at 99 percent (Q4) and 112 percent (Q3). Thus, Apple not only broke through in China in 2014, it exhibited a level of popularity previously unseen.

While these sales figures are open to interpretation, as with any analysis, they are affirming. What becomes clear when parsing the numbers, however, is that the success of Apple in China is built on two very different consumers—the wealthy and the middle class—suggesting the scale of Apple's popularity is broad and deep.

Apple as an Elite Brand

Ambitious and highly aspirational, China's affluent are always searching for the latest in luxury goods. That means the market offers numerous opportunities for luxury goods producers—and elite brands such as Apple. China's sensitivity to brand prestige, and the importance of quality and brand integrity has elevated Apple into the highest tier of luxury products, a tier usually dominated by brands like Louis Vuitton, Bentley, Cartier, and Hermès. Apple is now the top choice for gifting by the wealthy, preferred over former No. 1, the Parisian jewelry and handbag maker Hermès, according to a Hurun Research Institute report released in 2015. Gift givers in China pushed Apple as the preferred item for gifting, with 20.3 percent of men and 18.9 percent of women choosing Apple products as presents, according to the *Hurun Best of the Best – Chinese Luxury Consumer Survey 2015*.

1M

Number of Chinese residents with wealth of more than USD 1 million.

39

Average age of Chinese millionaires, which is younger than in most countries.

109M

Number of Chinese residents who are considered middle class, surpassing the United States.

With more than one million millionaires, China has more residents with wealth above USD50 million than any country except the U.S. Because the average Chinese millionaire is only 39, which is younger than in most countries, China's millionaire class has been attracted to the youthful "bling" factor of the Apple brand for its design and function, and its hipness. Apple's high production values, beauty and elegance, and state-of-art technology make it a perfect fit for the status-conscious Chinese consumer. Moreover, the iPhone and iPad have taken on even greater importance in the customs surrounding business relationships, anecdotal evidence shows, becoming the gift of choice for executives seeking to woo clients and build relationships.

Apple and China's Middle Class — While Apple's products and services are popular among China's millionaires, they have also found a prized place among middle-class consumers who are drawn as much to them as status symbols as to their reputation as reliable communications devices. The trendsetter status of Apple, especially the iPhone, trumps practicality, even for the most middle of the middle class buyers. The Nielsen Device Share survey, released in April 2016, revealed that Apple increased its marketshare by 0.94 percent at the end of March for smartphones priced 2,000 yuan (\$308) and above.

Technically, the iPhone does not fall under the category of luxury goods in China because of its reasonable price (about 5,000 yuan or USD 800), but practically, it has become an affordable luxury item for a large number of middle-class Chinese consumers, who earn between USD 10,000 and USD 60,000 a year. If a middle class Chinese consumer cannot afford an expensive car or extravagant handbag, owning an iPhone is the next best thing.

Last year, China hit another economic threshold that likely will contribute to Apple's good fortune with China's middle class. In 2015, the middle class reached 109 million, surpassing in size the U.S. middle class for the first time ever, according to a 2015 Credit Suisse report. Between 2000 and 2015, the number of middle class adults in China grew by 38 million, and their wealth rose by USD 5.6 trillion.

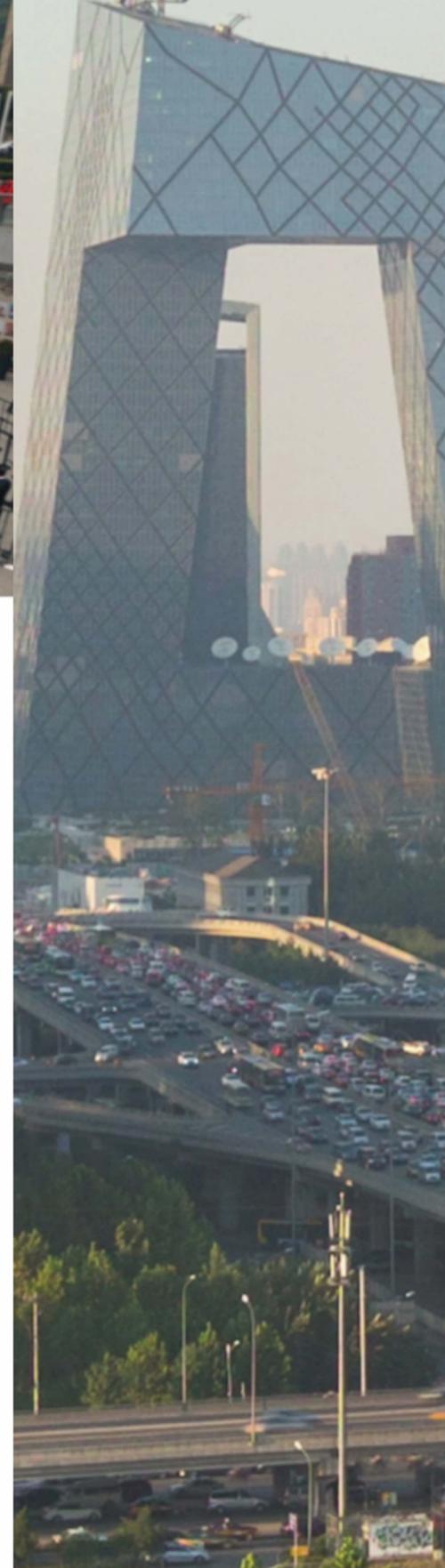
As a direct result of this progress, China's middle class is expected to continue to grow and diversify over time. There is naturally some variation in this among provinces, though most provinces and prefecture-level cities—especially faster-growing, more dynamic regions—are seeing their middle class expand at a swifter pace.



Popularity Continues — While global cities such as Shanghai, Beijing, and Hong Kong remain natural hot spots for Apple purchases, the growth of sales in China's inland cities, such as Chengdu, Xi'an, Changsha, to name a few, show that consumer electronics are gaining ground in lower-income regions of the country, and they, too, will soon be looking for opportunities to attain the cutting-edge Apple tech.

With a total of 40 retail stores in Greater China now, Apple will tap into those growing cities and others. Apple's sales in China are expected to continue to grow to meet the increasing demand for smartphones, tablets, and watches in the middle and affluent classes, thanks largely to its higher profile and the rise of annual incomes among the Chinese people.

Even with all this momentum among Chinese consumers, it would nevertheless be wise to be cautious. While Chinese consumers seem to love Apple products, many are still cost conscious and many have strong nationalist tendencies. The dominance of the larger-screen 6 and 6 plus models and the strong showing of the SE by no means guarantee Apple's position in the status hierarchy of technology in China. For several years, analysts have written about Xiaomi as a challenger to Apple, but, in the last year, it is Huawei that has taken over the top spot for market share of the smartphone segment in China. And, in the last year, OPPO has emerged to grab a share of the market nearly as large as Apple and Xiaomi and larger than Samsung. The competitive environment today is fierce, and dominance by Apple in this space is not guaranteed.



| THE (CHANGING) VIEW OF THE CHINESE GOVERNMENT |

Despite the popularity of our products in China, things have changed for Apple in recent years. When Apple entered China in 2001, it had global revenues of \$5.48B. The supply chain was just getting started, and in-country sales in China were less than \$50MM for the company's first several years of operation. It was a relatively small operation — compared to other foreign firms at the time — and thus flew well under the radar screen of the Chinese government.

There was another reason for Apple's ability to avoid the scrutiny of the Chinese government from 2001-12. Apple entered China at a very particular political moment in terms of China's engagement in the global economy. In the 1980s and 90s, China's Deng Xiaoping's strategy for economic development was to introduce China as a manufacturer for the world, using its inexpensive labor to join the global trading community and bring new investment to China. One of his earliest steps came in 1980, with the creation of four special economic zones. (SEZs) Set in Shantou, Shenzhen, Xiamen, and Zhuhai, these SEZs became a remarkably successful trial in market reforms. The initiative allowed the cities to attract foreign capital, import advanced technology, sell goods to the global market, and stimulate economic growth.

The attraction of foreign capital has been an explicit and key piece of the economic development roadmap that Deng laid out for China. The attraction of foreign capital was not just about cash and access to foreign export markets; it was also about the attraction of foreign technology. China held a bargaining chip beyond its deep, cheap labor pool: access to its billion-person marketplace. This access became a source of leverage that the other "Asian Tigers" could not exploit.

By the early 1990s, with China under the economic stewardship of then Vice Premier Zhu Rongji, a very clear and explicit quid pro quo had emerged in the Chinese market: foreign firms that wanted access to the Chinese marketplace had to form partnerships with Chinese firms and agree to transfer technology to their partners. Dating back to this time period, the Chinese government has focused on technology transfer as the ultimate end for foreign firms "helping" Chinese society.

40

Number of Apple retail stores in Greater China

495

Apple retail stores across 17 countries, including 270 in the United States, since May 2001.

Key Reform-Era Leaders



Deng Xiaoping
Supreme Leader
1979-1992



Zhu Rongji
Premier
1998-2003



Hu Jintao
Supreme Leader
2002-2012



Xi Jinping
President
2013-Present

As China considered opening its economy to the world in 1978, it was near bankruptcy. Some 679 million people were living in extreme poverty, under World Bank economic standards, and the average income was less than \$1.25 per day. Few placed any hope in the economic reawakening Deng Xiaoping envisioned when he took power as China's paramount leader in late 1978.

It wasn't an impossible dream. After all, China was the world's largest economy in 1820, generating an estimated 32.9 percent of global GDP, according to a study by economist Angus Maddison. Of course, colonial machinations, natural disasters, and ineffective governments caused China's share of global GDP to shrink. By 1952, it was 5.2 percent, and it had dropped to 4.9 percent in 1978.

By the end of 2016, China was the second largest economy in the world behind the United States. Even with its economic slowdown putting the brakes on a 7-percent annual growth rate, China is still seeing its economy grow at a healthy pace. When China passes the United States to become the global leader, it will be at a steady and predictable clip.

China's Foreign Company Business Models

- ✓ Representative offices (RO): An RO is a liaison office of its parent company, and it is generally prohibited from generating revenue.
- ✓ Trading companies (TCs): a TC has an import-export license that enables it to trade in goods.
- ✓ Manufacturing Wholly Foreign Owned Enterprises (WFOEs): the limited liability company is wholly owned by the foreign investors
- ✓ Joint ventures (JVs): JV companies are jointly owned by the parent companies and share technology.

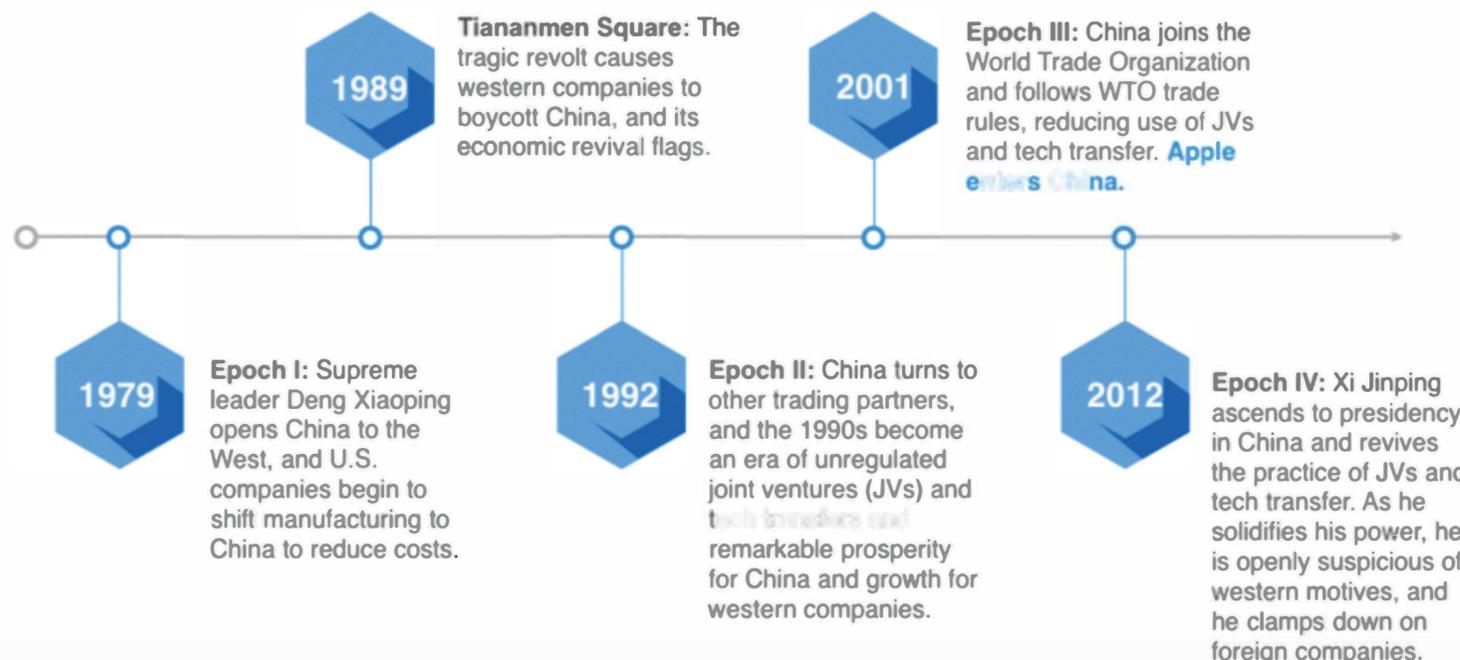
During this time, there were basically four types of structures under which foreign entities could navigate China: Representative Offices (RO), Trading Companies (TC), Manufacturing Wholly Foreign Owned Enterprises (WFOE), and joint ventures (JV).*

As noted earlier, the Chinese government had very clear views and requirements for access to the internal marketplace, and without the explicit "helping" of Chinese partners through technology transfer agreements, there would be no access. These organizational forms became closely associated with this quid pro quo, as ROs and TCs were viewed as doing little to help Chinese society, while WFOEs and JVs were regarded as showing strong commitment and benefit to Chinese society.

JVs were always the most-preferred form of foreign engagement for one basic reason: Because JVs are truly joint companies — jointly owned and controlled by the parent companies — there is no way to control the flow of technology between the JV and the Chinese parent. Thus, any technology brought to the JV would have the added benefit of technology capture by the Chinese parent. Thus, foreign companies would bring technology to the table, and their Chinese parents would help them in navigating the Chinese marketplace.

Some MNCs worked to control the open flow of technology by establishing WFOEs and agreeing to concrete technology licensing agreements. However, by the mid-1990s, even MNCs that sought to protect intellectual property this way found themselves under pressure. The case of Motorola is perhaps the most famous example of this dynamic in the 1990s. The central government changed the rules of engagement for Motorola in China in the mid-1990s, pressuring the American company to set up a JV relationship with one of its key partners, the Hangzhou Telecommunications Factory (HTF). As reported in Guthrie (2012), "In return for the schedule of technology transfer that would be incorporated into the agreement, Motorola would receive greater access to internal markets and, more important, the corporation would continue to receive 'favorable' treatment from the government in matters of approvals and the like. As one highly placed Motorola employee put it, 'We really didn't have much choice in the matter. We have been doing well over here for a while, and now the government wants us to share the wealth a little... At this point, it's clear that it's not an option to keep the status quo...'"

Reform-Era China's Four Economic Epochs



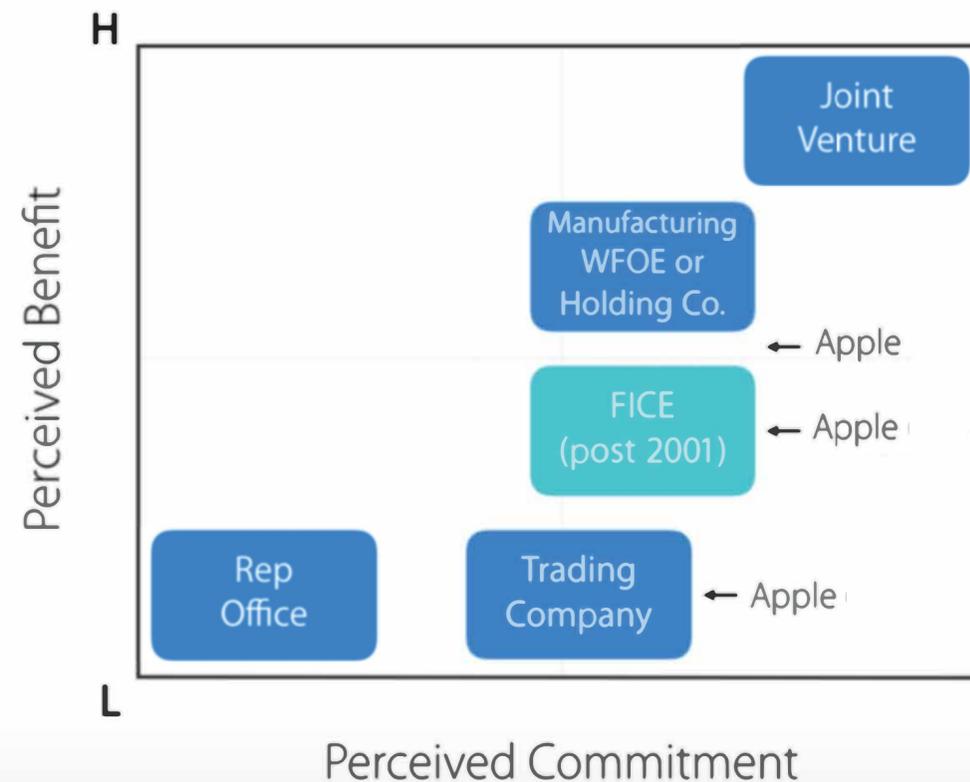
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It should be noted that, today, the organizational landscape is more complex. Wholly-Owned Foreign Services Companies, Foreign Investment Commercial Enterprises (FICE), WFOE Consulting Companies, are all different variations of the TC/WFOE categories. The key point is that JVs, Holding Companies and manufacturing WFOEs are viewed very differently than any of the other categories.

In 2001, just as Apple was entering China, this dynamic changed rather suddenly. After more than a decade of fighting, China had finally been granted access to the World Trade Organization (WTO).

In 1999, Premier Zhu Rongji had reached terms with President Clinton, thus securing the United States' backing for entry into the global trading system, and in September of 2001, the date of entry had finally arrived. The moment of accession was critical for MNCs operating in China, because, from here on, it would now be illegal for China to place conditions on the opening of internal markets. At that moment, and with few exceptions, the JV was virtually abandoned as an organizational model for MNCs. It was in this climate that Apple built its presence in China since 2001.



A comparison of the various business structure options available in China illustrates the opportunities and challenges of trying to adopt to the Chinese model. The perceived versus real benefits of these structures pose an ongoing concern for Apple.



A great deal has changed since 2001. First, Apple has grown to be one of the most powerful companies and popular brands in the world; it has also grown to be among the most scrutinized brands in the world. And the Chinese government under Xi Jinping (who came into power in the Fall of 2012), for its part, seems to have a very different attitude toward foreign investment than the regime of Xi's predecessor, Hu Jintao. If Hu's regime could be characterized as the liberal era of post-WTO accession, Xi's regime has many different features to it. Not simply a throwback to the Zhu Rongji era, this era of Chinese politics relies on China's greater bargaining power and political muscle to drive foreign firms to the types of partnerships that are best for China. Technology transfer, indigenous innovation, market self-sufficiency, and national security are hallmarks of the Xi regime.

It is useful to note that the language of the Xi regime has also shifted with respect to these issues: where previous regimes (namely the Zhu Rongji era) focused solely on technology transfer, Xi's "China Dream" refers as much to innovation and entrepreneurship as to technology. As Premier Li Keqiang noted in a speech at the World Economic Forum in Davos last year:

"To foster a new engine of growth, we will encourage mass *entrepreneurship* and *innovation*. China has 1.3 billion people, a 900-million workforce, and over 70 million enterprises and self-employed businesses. Our people are hard-working and talented. If we could activate every cell in society, the economy of China as a whole will brim with more vigor and gather stronger power for growth. Mass *entrepreneurship* and *innovation*, in our eyes, is a 'gold mine' that provides a constant source of creativity and wealth."

One Additional Tool: Rule of Law versus Rule by Law

*There is a difference between the "rule of law" — in which laws are applied on an even playing field — and the "rule by law," in which laws by a ruler are simply intended to control a population. In Chinese dynastic culture, there was always a philosophical tension between the followers of Confucius, who felt that moral discipline came from within an individual, and the followers of "Legalism" (Fajia), who argued that humans were not morally perfectible, and had to be constrained by laws. Legalism could be harsh and oppressive.**

(John Paden (2003), "The World Trade Organization and Rule of Law in China: A First Year Assessment," International Law.)



Kong Qiu, better known as Confucius, was born in 551 B.C. in the Lu state of China (near present-day Qufu). His teachings, preserved in the Analects, focused on creating ethical models of family and public interaction, and setting educational standards. Confucius died in 479 B.C.

There is an additional crucial difference between Apple's initial entry into China (2001-12) and the current era, which we believe is creating difficulty for Apple in navigating China. For much of the last 35 years (the era of economic reform in China), foreign actors have struggled to understand the emerging legal infrastructure in this authoritarian system. The disconnect between Western and Chinese understandings of law may actually date back as far as the Legalists School from the 3rd Century BCE. During that time, Chinese Legalists, beginning with Han Fei and his classic text the Han Fei Zi. Far from Confucian scholarly ideals of leadership through moral authority and far from ideals of law that operates through an independent judiciary, the Han Fei Zi advocated a legal infrastructure that would allow a despotic authoritarian ruler to rule through the despotic application of draconian rules and laws. Law was conceived as being in the service of the authoritarian ruler.

Under Zhu Rongji's leadership (Vice Premier and Premier under Jiang Zemin from 1992 through 2002), the government began a gradual march toward the building of a Rule **of** Law system. During that time, many laws were passed that pushed forward the development of the Rule of Law in China. It is important to recall, as noted above, that this was a relatively lawless time by international standards, as China was still being kept out of the World Trade Organization by the United States. By 2001, with China's accession to the WTO, the country was well under way toward the development of a Rule of Law economic system. Zhu Rongji's reforms were also laying the groundwork for a Rule of Law social system, but in the wake of the upheaval resulting from the Tiananmen incident, this process was moving covertly and gradually.

In the year of 2001-02, two things changed. First, in the Fall of 2001, China entered the WTO. With this entry came a great deal of promises and pressures for China to pass a number of laws to open its markets, build a legal infrastructure that would adhere with international standards, and pass laws that would protect foreign firms operating in China. Indeed, just a year into WTO accession, the United States Trade Representative noted that,

"China made significant progress in implementing its WTO commitments... Areas of concern included transparency (related to new laws and regulations) and uncertainty and lack of uniformity in laws and policies. Other problem areas were agriculture, intellectual property rights and services."

Rule of Law versus Rule by Law

The differences between "by" and "of" are significant in China. Rule by law exemplifies the law as a tool to be used as the state sees fit, as opposed to the characteristics of the rule of law, which is the ability of a law or legal system to impose restrictions on the state and individual members of society and the political elite.

The second thing that happened was the transition from Jiang/Zhu to Hu/Wen. Jiang and Zhu were strong on the transition to the building of a Rule of Law economy/society; Hu/Wen were just plain weak and set to follow whatever the WTO said they should do, although enforcement was very weak.

In the Fall of 2012, everything changed with the ascension of Xi Jinping. Throughout his career, President Xi has been very careful in keeping his political stripes hidden. However, things might have begun to become clear when the Party orchestrated the ouster of Bo Xilai — it was clear at that moment that President Xi would control corruption, control challengers, and control the Party. Years later, it would also be clear that Xi would become the most aggressive centralizer of power and control since Mao.

And here we see the shift from the the Rule of Law to the Rule by law. A Rule of Law system seeks to establish rules, laws, and institutions that transcend the caprice of a given ruler or party. Rule *by* Law, at least in the Chinese parlance, suggests a system that is interested in a legal infrastructure that forces individuals and organizations to meet the needs and desires of the authoritarian regime.

In 2013, President Xi began promoting his vision of the China Dream. And at the Fourth Plenary Session of the 18th Party Congress (in 2014), Xi openly promoted an adherence to the Rule of Law (依法治国). However, in the years since, it has become very clear that this system is much less like the Jiang/Zhu notion of the Rule of Law and much more like Han Fei Zi's notion of Rule *by* Law.

The new legal infrastructure is systematically being set in place to make it impossible to operate in China and thereby force foreign firms to do what they want them to do. The Dispatch Labor Law of 2014 (劳务派遣制度改革进行时) and the Cybersecurity Law of 2016 (中国网络安全法) are prime examples of the ways in which the government is creating a strong but difficult legal system to maneuver.

But, to be clear, in a Rule **by** Law system, the goal is rarely compliance. The goal is to make compliance so difficult that people and corporations are always *out* of compliance. This dynamic gives the government the leverage to force people and corporations to do



President Xi Jinping, center, during the the third Plenary Session of the 18th CPC Central Committee in Beijing in 2013. During the session, he emerged from the key four-day meeting with new powers to force change.

what they want them to do. In China today the message is clear: Foreign firms that do not get in line with what the Chinese government wants will be sanctioned. To date, seven major technology firms from the US have established major joint venture deals in the last 18 months. Only Apple stands on the sidelines.

The Changing Political Context

We have already mentioned the changing political context within China. However, there is also the changing geopolitical context in play here. Two days after the Presidential election in the United States, General Electric CEO, Jeff Immelt said in the *Wall Street Journal*, "the election is the latest step in a longer-term, global trend that's marked by political volatility and populism." Francis Fukuyama of Stanford calls this global trend "populist nationalism" – the identity politics of resentment, the sociology of people displaced by globalization. Brexit, France, Hungary, Russia, Turkey are all part of this trend. This trend is marked by deep divisions in society – class, race, gender, religion, nationalism. And it is accelerated by "hyper connectedness" – our on-line world, which while it connects us also often isolates us within our own ecosystem and narrow viewpoints. These populist trends also exist in China — domestic issues of inequality and nationalism. They create a dynamic and uncertain domestic situation.

These global and domestic realities provide backdrop and context to understanding Apple's place — and the industry it is broadly a part of — within our broader geopolitical context. China's authorities are deeply ambivalent about this connected, individually-empowered, fast-moving world: on the one hand, they know all of this drives creativity and innovation, which they want and need; on the other hand, the government sees the world as an increasingly dangerous place — both at home and abroad. As a result, China wants to increasingly control its cyber wall — the way data moves — in order to modernize on its own terms (see the recent Cybersecurity Law, as the key example of this dynamic).



IMPLICATIONS:

1. While Apple will not always be specifically targeted, we imagine bilateral threats (e.g., the South China Seas Dispute), and increasingly the company will be caught up in these broader geopolitical trends.
2. This reality means that risk will not disappear, even with perfect structure and culture.
3. This geopolitical reality also informs international technology companies' JV strategies, in part — not just forced technology transfer. Technology companies are also looking for protecting, hedging, and broader market access under these conditions.
4. *In this heightening risk environment, Apple will either step up to define its own terms of engagement in China, or increasingly have them defined for them.*

So Where Does Apple Fit Within This System?

So where does Apple fit into this discussion? Despite the popularity of Apple's products in China, the company seems to increasingly be under attack by the central government. The first shot across the bow came on Consumer Day, March 15, 2013 (the first Consumer Day over which Xi Jinping presided). On the nationally televised show, Apple was accused of "unparalleled arrogance," as a "greedy firm [that] treated locals as second class citizens."

In November 2015 and 2016, the State-Owned Assets Supervision and Administration Commission (SASAC) and the Chinese Academy of Social Sciences (CASS) released reports on the extent to which the top 100 global corporations give back to China. (See the graphic on the following page.) The report focused on CSR, and many publications (sina.com, tencent.com, *The South China Morning Post*, and many others) noted Apple's poor showing in the assessment compared to our peers — in 2015, Apple scored 22.5 on a scale of 1 to 100, where companies like Samsung and Intel scored 80+ (Apple scored similarly, 25.3 in 2016). However, the more damning articles looked beyond the CSR assessment to a broader assessment that is common with respect to Apple's operations in China — Apple is that foreign company that does nothing in the way of partnerships here, relies on cheap Chinese labor to assemble its products, and makes money hand over fist in China, and contributes little to Chinese society.

In the most glaring example, the popular blogger, Wang Chao, whose blog was picked up widely by the likes of Tencent and Sina, took the report and issued an excoriating analysis comparing Apple's presence in China to that of Samsung.

At one point, Wang asserted, "Apple [has] never invested much in China other than in advertising. Until now, Apple only has offices in Beijing and Shanghai, with a growing number of retail stores. Its revenue, on the other hand, has skyrocketed from 1 billion USD to 38 billion USD in the past five years... It goes without saying how important China is to Apple. As time passes, China may become the most important market other than US, so Apple's attitude toward China, seeing it only as a sales destination is not sustainable."

Most recently, Apple was forced to shut down iTunes and iBooks in April 2016 after China's online media regulator, the State Administration of Press, Publication, Radio, Film and Television, required the closings. This action came seven months after the operations were opened. The shutdown was linked to the new Cybersecurity Law, which bars foreign-owned companies from publishing content online in China. This move reflected China's ongoing determination to "safeguard China's information security" while also allowing the central government to supervise the majority of Internet content in the country.

In the last 18 months alone, we have seen the announcements of joint ventures ... We have not seen such a flurry of JV activity as this since the 1990s—and perhaps never in such a compressed timeframe.

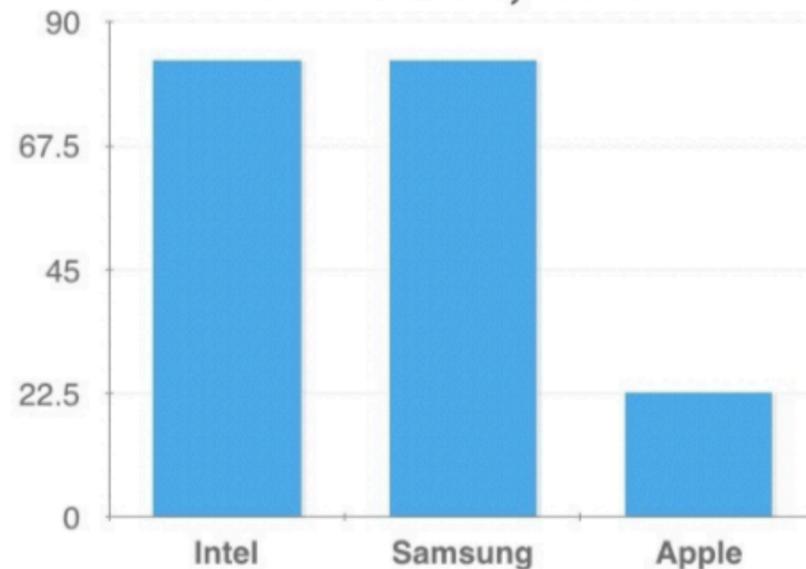
So here we have a puzzle: Apple is probably China's single largest foreign investor, spending more money in China than any other foreign company in the world. Apple has probably spent more on social causes like environmental sustainability and education than any other MNC. Yet, it is regarded by important organizations like SASAC and CASS as contributing little to Chinese society. How can this be?

The answer, we believe, lies in the fact that the current regime has returned to the kind of expectations that were explicit in the 1990s (pre-WTO accession) — if MNCs are not helping to uplift Chinese partners technologically, they would not be welcome in China. As China aspires to transform itself from a manufacturing juggernaut to a hub of indigenous technological innovation, technology transfer, knowledge sharing, and management practice are perhaps *the* most important aspects of how foreign firms are viewed in China, particularly in the technology sector.

In the last 18 months alone, we have seen the announcements of joint ventures from Cisco, Hewlett Packard, Dell, Microsoft, Qualcomm, IBM, and Intel. We have not seen such a flurry of JV activity as this since the 1990s — and perhaps never in such a compressed timeframe. Many of these announcements came with much fanfare and bluster, however, reading between the lines and knowing some of the behind-the-scenes details of what was required in these deals (for example, the giving up of source code in the cases of IBM and Microsoft), we can be sure that these relationships came under a certain amount of duress.

Unfortunately, the organizational structures that Apple operates by in China do not match the reach of the company here, at least not by the government's conventional view of what a deep partnership looks like. Apple has among the deepest penetration of any foreign company operating in the China and deep penetration in the supply chain, yet we do not have the same company infrastructure as other big players in China. Among our organizational entities in China — Apple Computer Trading (Shanghai) Co., Ltd. (151); Apple Procurement & Operations Management (Shanghai) Co., Ltd. (166); Apple Trading (Shanghai) Co., Ltd. (186); Apple Electronics Products Commerce (Beijing) Co., Ltd. (183); Apple Solutions Consulting Services (Beijing) Co., Ltd. (205); Apple Technical Services (Shanghai) Co., Ltd. (207); and the Beijing R&D Center (212) — none signal the type of commitment or partnership that the Chinese government has come to associate with technology transfer.

CSR Index, 2015



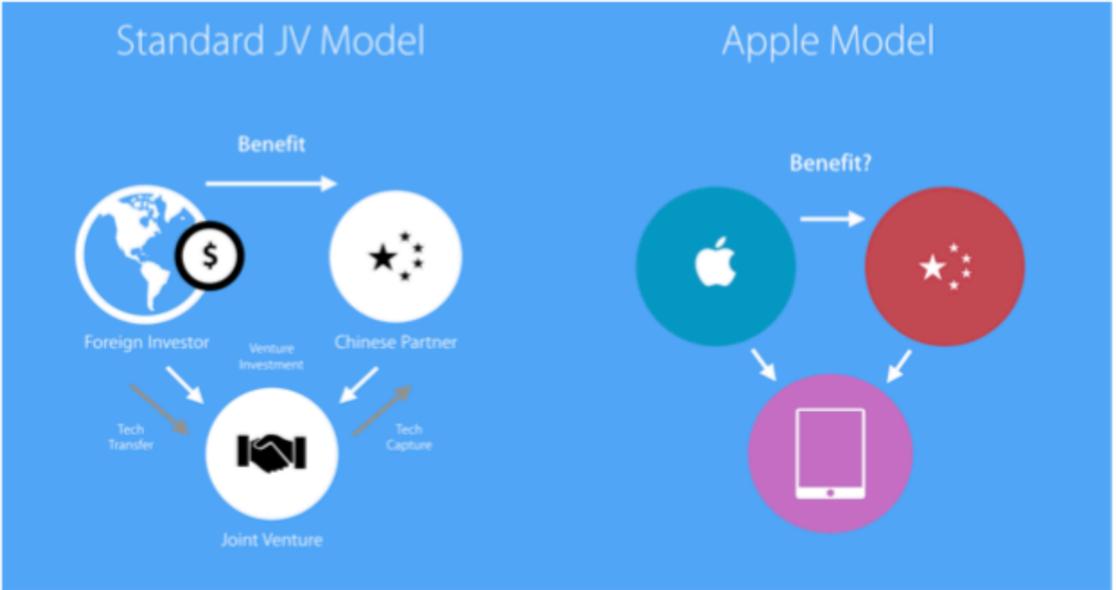
Source: CSR Assessment Study, conducted by SASAC & CASS, related November 3, 2015.

The State-Owned Assets Supervision and Administration Commission (SASAC) and the Chinese Academy of Social Sciences (CASS) released reports on the extent to which the top 100 global corporations give back to China. Apple has fared poorly on the index in recent years despite its contributions to China's environmental and labor sustainability.

So here we have a puzzle: Apple is probably China's single largest foreign investor, spending more money in China than any other foreign company in the world; Apple has probably spent more on social causes like environmental sustainability and education than any other MNC; and, yet, the company is regarded by important organizations like SASAC and CASS as contributing little to Chinese society. How can this be?

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Apple's structure in China is unique compared to its many competitors, most of which have adopted the standard JV model for operations there. The JV model has risen in prominence in recent years, despite its challenges to the WTO-favored approaches.

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The Partnership Hypothesis

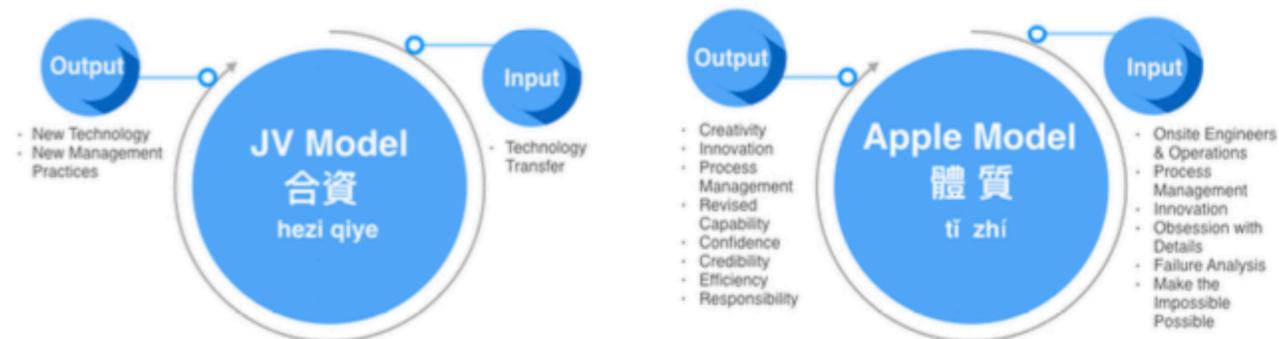
An interesting empirical question for Apple is whether the company is developing true partnerships in the Chinese economy. With the globalization of U.S. corporations in the 1980s, companies found an answer to two parallel but separate issues, cost and productivity. By the late 1980s, the emergence of contract manufacturing as the best process to achieve cost efficiency and productivity took hold around the world, and global firms began to outsource to manufacturers in Taiwan, Singapore, and China a large percentage of their IT product assembly to take advantage of its inexpensive labor. Yet, as economic growth stalled in the late 1990s, China's best bet to expand was the illusive WTO membership the country had aggressively sought.

In pre-WTO-accession China, the government's point of view was very clear: if you want access to China's internal market, you have to find a partner (or several) and help them to become better — largely through technology transfer but also through knowledge spillover in the area of management practice. For example, one of Apple's competitors, Samsung, which has been operating in China since the early 1990s, has partnerships (either as WFOEs or JVs) with 39 Chinese entities. These types of relationships are explicit "cooperative partnerships" (合作伙伴), and they are not just viewed favorably by the Chinese government. They are actually a form of protection against government interference.



Chongqing

The Apple business model structure in China provides enormous benefits to China, far more than the JV model.



As the figure above illustrates, the standard JV model is so favored by the Chinese government because of the flow of technology between the foreign investor and the Chinese partner. In this “standard” model, an intricately-negotiated partnership exists, and there is an explicit joint investment in the new venture — whether a JV firm (合资企业) or a cooperative partner (合作伙伴). But the key to these investments is the flow of technology: as technology flows into the JV, the same technology is “captured” by the Chinese partner. Even in WFOEs with licensing agreements, there is almost always explicit language around technology transfer. Thus, in the JV partnership, there is direct benefit to the Chinese partner through the technology transfer (usually to the JV) and technology capture by the Chinese partner.

By comparison, the Apple mode of collaboration appears, on the surface, to be somewhat anemic. While we have contractual relationships with all of our partners, we have no formal agreements about technology transfer. Furthermore, none of our partnerships result in new JV entities that are built around the new technologies Apple brings to the table. These are simply relationships that focus on the production of a single component, the assembly of a module, or the assembly of a final product.

However, a closer inspection of what Apple does in these relationships may reveal a different story. Let’s again compare the partnership models but from a different perspective. In the “standard” JV model, the new technology is bestowed upon the Chinese partner by the foreign partner. In the Apple model, the company scours the supply chain to find the handful of factories that would like to go deep with us in a given area—it might be as specific as a single component or the processing of a single material in a certain way, or it

While the types of partnerships Apple engages in might look like they are leaving behind less in terms of concrete technology transfer agreements, one could argue that Apple is actually leaving behind something much more valuable.

might be a deep and detailed process of how to build a new vibe module. They may initially believe that what Apple is asking for is impossible as many of our suppliers will readily say. Apple then sends its engineers onsite to show the supplier that what seems impossible is possible.

But, more than this, Apple embeds engineers to teach, collaborate, and learn. The companies innovate together. We help them learn about obsessing over the details and developing new processes. Apple helps the supplier develop new analyses of the processes, to innovate the way Apple innovates. The outcome of this is that rather than leaving behind a technology that Apple developed and then bequeathed to the partner, Apple leaves behind a new understanding of creativity, innovation, and process management; a new sense of efficiency and even a sense of corporate social responsibility.

Thus, while the types of partnerships Apple engages in might look like they are leaving behind less in terms of concrete technology transfer agreements, one could argue that Apple is actually leaving behind something much more valuable — the critical lesson of how to innovate. It is worth noting here that, while companies like Samsung have established partnerships with dozens of Chinese partners (in Samsung’s case, 39), Apple has some form of relationship with more than 2,000 firms operating in China.

Apple’s Motivation: Cost and the Competitive Market for Innovation

Let us be clear and up front about one thing: we did not build this dynamic supply chain out of some altruistic desire to help Chinese firms learn innovation, nor should we aspire to portray Apple’s history in China in such light. The business model emerging from our supply chain is built from disciplined business acumen, and it has allowed us to do three things. First, our open supply chain allows us to chase the best components in the market, wherever we might find them. Like our functional organizational form, our supply chain is set up to allow us to work with experts in a given area, regardless of where they are located. In comparison to Samsung, which is limited to the expertise housed within its 39 component and module production sites in China, we work with more than 2,000 suppliers across the country, and we will go wherever the best expertise is. Second, redundancy in the supply chain helps mitigate risk in supply chain production.

For example, when the vibe module production was becoming a gate for the production of Apple Watch and iPhone 6S, we had Apple specialists working with both Nidec Corporation and AAC Technologies simultaneously to ensure that at least one of them would be able to deliver what we needed. Third, working with many suppliers creates a competitive market for the component production we need, allowing us to drive to price points that are advantageous to us. For every AAC there is a Nidec; for every Lens Technology there is a Biel Crystal Manufacturing.

It would be disingenuous for us to assert that we have set up our supply chain with the goal of teaching innovation to our Chinese vendors. Nevertheless, as we study the relationships Apple has throughout the supply chain, it is clear that, in some cases, we are, indeed, doing just that. Our leaving behind new models of creativity, innovation, and efficiency may be an unintended consequence of what we are doing in China, but it is a positive consequence nonetheless.

In sum, this is what we refer to as *The Partnership Hypothesis*: Although Apple does not have the same organizational structure of typical technology transfer deals, our approach to collaboration with our vendors amounts to a kind of partnership (伙伴), which teaches innovation, process management, and efficiency to a large number of suppliers across China.



Apple has a very deep commitment to China, perhaps as deep as any foreign company operating in China today. We pour more money into China than any other foreign company — on the order of \$55BN per year by 2015 — creating an estimated 4.5 million jobs in the technology manufacturing sectors across China.* However, as noted above, the Chinese Government is not deeply impressed by the creation of jobs in manufacturing; rather, the government has a much stronger interest in collaboration that leads to innovation and technology transfer. We have also staked out a strong position of social responsibility, investing aggressively in supplier responsibility, environmental sustainability, education, and disaster relief.

Yet, Apple's reputation in China continues to deteriorate. There is no longer any question as to whether Apple's reputation is suffering in China and has been since 2013. The evidence abounds — through many examples, ranging from tax issues to intellectual property, to customs, to iPhone approvals — and the pressure has become especially acute in the last 18 months. As we have argued here, this is partly because of our underdeveloped organizational structure in China, but it is also because we do not have a narrative that hits the notes that the Chinese government is looking for.

Since 2013, the political situation in China has changed in significant ways, and the Chinese government's view of foreign corporations, particularly in the technology sectors, has shifted to an attitude and an approach that looks much more like the 1990s than it does the 2000s (post WTO accession). Apple's organizational structures do not look familiar to what the Chinese government expects to see among MNCs who are "giving back" to Chinese society. This is the reason, in part, that Apple does so poorly in CSR assessments, as in the cases of the CASS-SASAC CSR reports of the last two years, where Apple performed among the worst of major MNCs operating in China. Our structure and our lack of a proactive approach to explaining our impact in China causes Apple's reputation to suffer. This will make it increasingly difficult to do business in China.

Apple's organizations operating in China, which range from sales (151) to retail (183, 186) to operations (166) to new services (205, 207) to R&D (212).



As very likely the single largest foreign investor in China measured by annual spend, Apple's presence in China is too great; the Chinese government's focus on the company too strong; and our breadth of activities is too diffuse to easily understand what the company contributes to China. Local governments and individual ministries within the Central Government often have knowledge of fragments of the larger portfolio of activities in which the company is engaged. As noted above, we do have a lot going on in China today: We currently have six (soon to be seven) organizations operating in China, which range from sales (151) to retail (183, 186) to operations (166) to new services (205, 207) to R&D (212); and, in addition to spending more money into China than any other foreign company — and creating more than four million direct manufacturing jobs — we probably invest more in social responsibility issues than anyone else. This is a lot of activity, which is good.

However, as mentioned above, there is not a common or united narrative about how all of these activities fit together. Further, there is a sense within the Chinese government that Apple is not hearing the message that the Chinese government is sending (see Rule by Law discussion above). As we mentioned in Part I above, virtually every other major US technology company operating in China has internalized the message being sent by the Chinese government through the new laws that have been passed in the last three years. Indeed, every one of our US competitors that operates in China has put forward a new high-profile investment to show their commitment to China (see Appendix summary of ventures). If Apple is going to avoid the fate of our competitors we need to do two things.

First, Apple needs a new narrative in China, and we need to focus on this narrative — this is not just an issue of Corporate Communications or Government Affairs, it is the responsibility of all Apple leaders working in the region. We all need to be able to cite the ways in which Apple has, in fact, engaged in partnerships across China. In our study here, we have selected a small sample of cases among the many business partnerships we maintain across the supply chain in China. As it turns out, Apple spends hundreds of thousands of man-hours every year with our engineers and managers working side-by-side with the technical employees of our partners in the supply chain. Some of these partnerships are very deep in terms of technical advancement and even, in some cases, technology transfer; some partnerships help more in the areas of management practice.

In our view, despite the fact that it might cut against Apple's functional structure and culture to do so, Apple should consider adopting an organizational structure in China that is more recognizable to the Chinese government.

Through our management of the supply chain, Apple creates a competitive market for innovation, a system that teaches innovation in the marketplace and drives greater efficiency and productivity. In many ways, what Apple is doing is very much in line with Li Keqiang's recent focus on entrepreneurship and innovation. Our approach should be widely shared and celebrated.

Second, Apple needs a new organizational structure in China, one that knits together all of these activities in a more coherent way **but also signals to the Chinese government the company's commitment to partnership in China**. Without this type of coherent structure, we will continue to experience the unfair glare of the Chinese government without the protection that all of our competitors benefit from. Such a structure will not only allow us to have a common narrative of the "partnerships" we are already developing — and there are many that the Chinese government does not know about or appreciate — but it will also allow us to integrate the stories of new investments in which we are engaging. We present four different options as a way of thinking about the possible ways forward.

In our view, despite the fact that it might cut against Apple's functional structure and culture to do so, Apple should consider adopting an organizational structure in China that is more recognizable to the Chinese government. Our proposal is a narrative that includes the following concept: Apple's operations in China can be divided into two very broad buckets, (1) developing and building products and (2) delivering products to market. In a number of ways, the functions we serve in China where we are delivering product to market are fundamentally different from the engagement we have in the areas of research, development, and manufacturing. Now, one might make the same argument about the distinction between R&D and Operations. However, our argument is that Apple is doing a tremendous amount in the area of technological development and the teaching of innovation, even within our supply chain. As this report shows, the technological development that occurs with our supply chain "partners" is much closer to the R&D side of the business than it is to the product-to-market side of the business. The point that needs to be emphasized to the Chinese government is that Apple does a tremendous amount in the area of technological development and innovation. Accordingly, we propose the following organizational structure for Apple in China.

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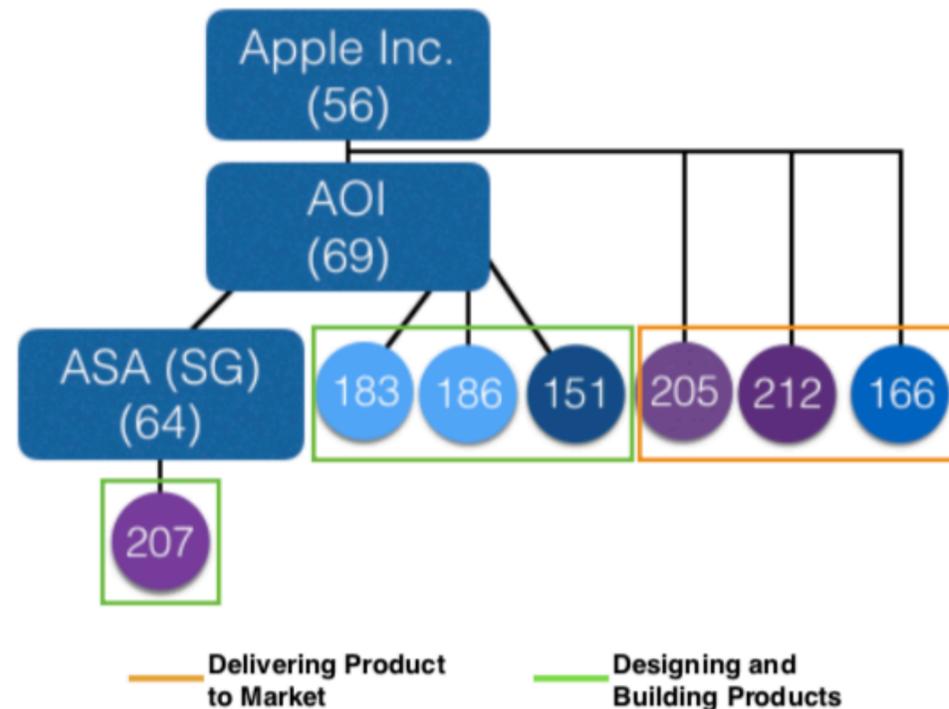
This organizational structure emphasizes the distinction between (1) developing and building products [166, 205, 207, 212] and (2) product marketing and delivery [151, 183, 186]. With respect to #1, this organizational structure creates a unified narrative surrounding the developing and manufacturing of our products in China. All that we do in China is driven by a commitment to innovation and the development of new components and processes that lead to the creation of beautiful products that enrich people's lives. But it is crucial that APO [166] be placed in its appropriate place alongside the other technical organizations Apple holds within China. Indeed, as the Apple in China Partnership Research Project has illuminated, Apple's process of teaching innovation to our partners in the supply chain is one of the great secrets of how we do business in China and of what we leave behind.

In sum, it is clear that Apple is doing a great deal in China. But it is also clear that the Chinese government is not aware of a great deal of what we do. We need to think carefully about how we tell the story of our partnerships — both in terms of the narrative of what we are already doing but also in terms of our current organizational structure. There is a great story here — and it is very much an Apple story — and we must find the ways to share this story with the Chinese government and across China.

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Apple's current organizational structure emphasizes the distinction between developing and building products and product marketing and delivery.

Current Structure (1)

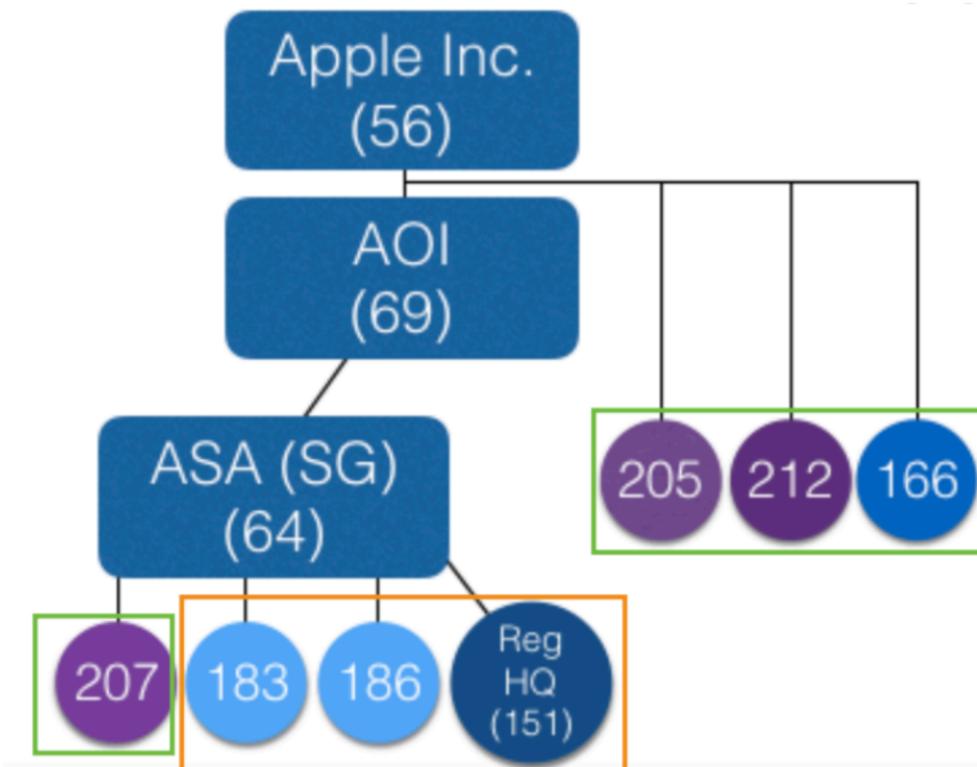


A Second Option is a relatively simple one: elevate 151 from a trading company to a Regional Management Headquarters (RMHQ) organization. At a bare minimum, this move is probably essential. As the oldest and largest Apple organization in China in terms of tax revenues, this organization is probably the most visible.

The problem is that the very concept of a “trading company” [maoyi gongsi, 贸易公司] simply sounds terrible in China’s political climate today — it certainly does not befit the company that spends more money in China today than any other company in the world. When we hear statements like, “Apple [has] never invested much in China other than in advertising,” it is very likely that the “trading company” designation is the origin of this perception.

Elevating 151 to a RMHQ organization is a fairly simple process and will at least allow the company to shed the title and the accompanying reputation of a trading company.

Proposed Structure (2)



APPENDIX I

Partnership Deals of Other U.S. Technology Companies



| TECH COMPANIES: REKINDLING THE JOINT VENTURE |

If anyone needed proof that U.S. technology companies are interested in China, they need only look to the first stop of President Xi Jinping's U.S. visit in September 2015. It wasn't to the White House but rather the technology center of Seattle. There he dined with government and business leaders, toured the Microsoft campus, and met with CEOs from top American technology companies.

In a telling group photograph (above), President Xi is seen alongside the heads of Apple, Microsoft, Amazon, Facebook, IBM and Cisco along with a dozen executives from Chinese technology giants. It was clear that the Chinese government was playing a prominent role in securing U.S. access to China's markets.

In an interesting twist, however, we have seen the rapid re-emergence of the Joint Venture (JV). A series of joint ventures were announced between U.S. and Chinese companies in the weeks leading up to and during the Chinese leader's visit to the United States, including JVs for Cisco, Dell, HP, IBM, Intel, Microsoft, and Qualcomm. Chinese officials have made it clear to foreign technology firms that market access depends on their sharing technology and cooperating with Chinese industry through JVs and other agreements that focus on the technology transfer. (See *Introductory White Paper for history of JV pressures from Chinese Government.*)

That is in line with China's plans to advance ICT infrastructure. The development of ICT was a core component of the 12th Five-Year Plan, which included adoption of next-generation broadband, convergence of three networks (Internet-telecoms-television) and investments into cloud computing, Internet of Things (IoT) and high-end servers. Accelerating growth in cloud and mobile devices, along with government initiatives such as "smart city" projects, would further drive growth.



In June 2015, Cisco announced a \$10 billion investment to support local innovation in China, as well as the the country's ongoing transformation, and the growth of local economies and businesses. Cisco's commitment to China was reinforced in September with the signing of a strategic cooperation framework agreement at the 8th China-U.S. Internet Industry Forum, with President Xi presiding. Cisco and Chinese cloud computing and data center company Inspur Group are setting up a JV that will sell networking technologies and products, build world-class information technologies and solutions, and deliver other advanced technologies and services in areas including IT infrastructure, cloud, data center, smart cities, and big data.

The companies will invest an initial \$100 million (\$50 million a piece) as part of an important first step towards the previously announced \$10 billion. Cisco and the privately owned Inspur Group, a server maker, will jointly build and sell networking products, services and solutions inside China in areas such as cloud, IT infrastructure and the Internet of Things. Inspur will hold a controlling 51 percent stake in the venture, although some suspect that it will be a shell that will mostly resell Cisco routers and switches to the Chinese government and big state-run companies, rather than engaging in any real product development. Like its global tech peers, the networking equipment giant feared that without such well-connected local partners, it could get locked out of the lucrative IT services market under tough restrictions imposed by the new Chinese national security law.

Announcement of the new JV with Inspur marks a major shift for Cisco, which up until now has preferred to do its business in China by itself rather than with a local partner. China represents approximately 3 percent of Cisco's business, and being the world's second largest economy, it sees the potential to increase this considerably. Cisco's U.S. channel partners see few opportunities in the JV with China because Cisco has its own Cisco Gold partners in China, and benefits, if they come, won't be realized for several years. Cisco's \$10 billion is an initiative that includes a "renewed commitment" and agreements with the Chinese government to expand partnerships, research, and investments in "next-generation" Chinese technology and spur job creation. This latest partnership will likely help to ease some pressure from the government, even though it could ultimately put some of Cisco's intellectual property at risk. The deal includes software and hardware development, and will also resell core router and switching products to Chinese customers.



Dell is making strategic investments in areas like cloud, Big Data, storage, mobility, security and next-generation data centers in China, and it is on track to become a major player in China's cloud industry. To do that, Dell advanced in 2015 an aggressive pro-China strategy, "In China, For China 4.0," with a \$125 billion investment over the next five years.

To support local innovative enterprises and promote Chinese technology innovation, Dell launched its venture-capital arm Dell Ventures in China. Toward that goal, Dell Ventures plans to invest in an "Artificial Intelligence and Advanced Computing Joint-Lab" with the Chinese Academy of Sciences, plus other projects related to research and development.

Dell also formed a series of local partnerships, including with state-owned China Electronics Corporation, Tsinghua Tongfang Co., and the Guiyang Municipal Government.

And with Kingsoft Corporation, it plans to expand cooperation in big data and cloud computing with the launch of the "Dell-Kingsoft Cloud" services. The joint venture will support China's Internet+ strategy. The JV comes after Kingsoft invested in Chinese data center operator 21Vianet Group Inc. in 2014, a move that gave it access to 5,000 cabinets for the next three years. Following on from that investment, 21Vianet announced it would host Azure and Office 365 in China until 2018.

Currently, Dell has 2,000 employees in China, and it plans to support as many as one million jobs through \$175 billion in imports and exports. CEO Michael Dell said the company will integrate its future development planning into Chinese economic development and policies.



HP opened its first representative office in China in 1981 and, in 1985, became the first high-tech company to enter into a joint venture in China. For 25 years, China HP, headquartered in Beijing, has been a leader in China's business technology market. With the integration of 3Com Corporation and its subsidiary H3C Technologies Co. within the HP Networking portfolio, HP is extending its participation in one of the world's fastest-growing economies.

In May 2015, Hewlett-Packard (now Hewlett Packard Enterprise) sold a controlling stake in its enterprise infrastructure business in China to Tsinghua Holdings—owned by Tsinghua University—and the two created H3C, worth about \$4.5 billion. The new company comprises HP's old H3C Technologies as well as HP's China-based server, storage and technology services business. Tsinghua Holdings owns a 51 percent stake in the company, which will rank highly for networking, servers, storage, and technology services.

H3C will become a subsidiary of Unisplendour, which is the publicly traded unit of Tsinghua Holdings. It will have about 8,000 workers and \$3.1 billion in annual revenues. Meanwhile, the California company, which is one of the world's largest makers of personal computers, said it would still fully own its existing China-based enterprise services, PC business and other operations in China.

The new JV will become the second-largest enterprise hardware provider in China after Huawei Technologies Co Ltd, according to research firm International Data Corp. HP's decision of moving its own server, storage and technology support teams in China into the new H3C has surprised many industry insiders. HP is showing its commitment to the Chinese government that the company is ready to share the profits in China with local players.

Unisplendour's strong State background likely attracted HP the most to the JV. Teaming up with a local vendor will help HP avoid restrictions on overseas IT providers. However, it still has to be willing to share part of its earnings with its local partner.



Over the last two years, IBM has agreed—and received permission under U.S. export laws—to provide the Beijing company, Teamsun, with a partial blueprint of its higher-end servers and the software that runs on them. The goal is to help Teamsun develop a full supply chain of computers and software atop IBM's technology. On a macro level, the effort is also designed to create a domestic tech industry in China that in the long run will no longer need to buy American products, thus avoiding security concerns.

IBM describes its new relationship with China as one that elevates openness, and it says this effort is a part of its global program called Open Power and should not be seen as some strategic initiative to get around U.S. or Chinese regulations. Launched in 2013, Open Power has 120 members worldwide, including Google and Samsung Electronics. Fewer than 20 are from China. The point of the program is to provide base technology that can be enhanced by licensees worldwide and spur global partnerships and business opportunities.

Open Power partners in China are getting access to the same technology that IBM makes available to all Open Power members around the world. Teamsun says the company's new capabilities will help it better address security concerns of local Chinese companies. Calling a movement in China to replace crucial high-end technology from IBM, Oracle, and EMC an "opportunity," Teamsun aims to absorb and innovate rather than simply imitate, as in the past with most JVs.

IBM has also agreed to license its advanced chip technology that works as the brain of the servers to a separate Chinese company, Suzhou PowerCore. IBM says it has spoken to Chinese clients about letting them build local encryption over its z13 mainframe computer, which could help in China, where a proposed antiterror law requires domestic companies to provide encryption keys or use local Chinese encryption standards.

Both the server and chip technology IBM is licensing in China are widely used by banks in that country. By sharing it with Chinese companies, IBM may be looking at a longer-term play where it can be a part of the base technology that Chinese companies use to build higher-end servers and other new products that meet Chinese regulations.



Intel has been developing its Chinese market for some 30 years—investing more than \$7.5 billion in that time—and the company owns one chip manufacturing factory in China. With its new partnership and a change in strategy at its Dalian chip plant, Intel has been signaling in the last six months a different future for the company in China.

Intel is working with Tsinghua University and Montage Technology Global Holdings Ltd., a state-owned company, to form a joint venture to produce innovative new chips. Tsinghua will develop a programmable chip that can be placed together with an Intel Xeon microprocessor in one plastic module. The new chip—reconfigurable computing processor (RCP)—and the software developed by Tsinghua will increase the chip's capability to solve specific local needs. Intel will provide over \$100 million in research funds to the JV. The chip is designed to address various concerns the Chinese government might raise about server traffic, especially concerning encryption and tracking. The partnership allows Intel to address government concerns and increase sales. Xeon microprocessors are the most widely used calculating engine in data centers of enterprises and governments. Starting in 2017, Montage will commercialize the modules containing the two chips.

In October 2015, Intel said that it would retool its Dalian semiconductor manufacturing plant to make storage chips. The strategy shift is expected to cost at least \$3.5 billion over three to five years. The company said it may spend as much as \$5.5 billion on the plant in Dalian, a city in northeastern China. Intel's move comes as the chip industry undergoes a wave of consolidation, and China steps up efforts to build local manufacturing capacity. The factory at Dalian, opened in 2010, is unusual because Intel said originally it would be kept at least two generations behind production processes at its other factories. However, Intel said the factory would now become a "leading-edge" maker of so-called nonvolatile memory chips, a term that refers to chips that retain data after power is turned off. The plant is expected to begin producing such chips in the second half of 2016.

In 2014, Intel also announced its decision to invest \$1.5 billion to gain a 20 percent share in the state-owned Tsinghua Unigroup, which runs Chinese chip designers RDA Microelectronics and Spreadtrum Communications. Intel also said it was establishing a partnership with Chinese chip maker Rockchip. Both moves were designed to accelerate Intel's mobile chip ambitions.



In late December 2015, Microsoft Corp. disclosed new details of a plan to work with a Chinese partner to accelerate adoption of the Windows 10 operating system introduced last summer. It will sign a JV with China Electronics Technology Group Corp., or CETC, a state-owned company that provides technology for Chinese military and civilian use. The venture will extend a relationship announced with CETC in September. That venture, tentatively called C&M Information Technologies, will be based in Beijing and will license, deploy, manage, and provide technical support for Windows 10 for government and government-owned institutions.

The initial relationship with CETC, announced during Xi's 2015 visit to Seattle, was described as an effort to maintain a "localized" version of Windows 10 for clients in Chinese government and state-owned enterprises operating critical infrastructure. The new venture will have exclusive rights to license a specific configuration, or image, of Windows 10 developed for Chinese customers, which includes capabilities such as government-selected antivirus software. It will provide product activation, patch management, deployment services and product support, as needed, to these government customers. And it will collect feedback from these government customers on their specific use requirements to inform the creation of the successive updates of the government Windows 10 image, which may be developed by the joint organization. In the last few years, Microsoft has inked deals with Chinese companies such as Tencent, Lenovo, Baidu, and Xiaomi, but it has still been unable to thwart the ongoing problem of people using pirated versions of Windows.

The new JV with CETC would mark a turnaround in the Chinese government's view of Microsoft. In 2014, the Chinese government launched an anti-monopoly probe against the company, months after it banned the use of Windows 8 by official agencies. China's government has pushed for lower prices and better tech support, especially after Microsoft abandoned Windows XP, still widely used in the country. The government even made an attempt to move away from Windows reliance by producing its own Windows XP clone, called NeoKylin.

C&M Technologies, as the exclusive licensor of the custom version of Windows 10 for the Chinese government will provide the support the government previously requested with patches and updates, and will also take feedback on exactly what future versions of the operating system will need. In return, Microsoft gets a way to regulate at least some of the use of Windows 10 in China, and a chance to make more money off its product. Microsoft agreed to the joint venture despite being bullied by China—or because of it.



Mobile chip giant Qualcomm is getting into China's data center market with a new joint venture to design and sell server chips in China. The joint venture was announced Sunday morning in China, and brings together Qualcomm and the government of China's Guizhou province. A Qualcomm subsidiary will own 45 percent of the newly formed company and the Guizhou government owns 55 percent for a total value of RMB 1.85 billion, or about \$280 million.

As part of this deal with the province Qualcomm will also establish an investment company in Guizhou that will serve as the vehicle for future investments in China. The venture, called the Guizhou Huaxintong Semi-Conductor Technology, will start by selling Qualcomm's own server designs, expected to launch some time this year. The new company will be 55 percent owned by Guizhou's provincial government, while Qualcomm will hold the remaining 45 percent. The venture is valued at \$280 million USD.

In addition to selling the soon-to-be-launched Qualcomm server chips, the joint venture will also license Qualcomm's server chip design so the new entity can produce a slightly modified version of Qualcomm's chip specific to the needs of the Chinese cloud computing market. And finally, Qualcomm and engineers at the joint venture plan to design a completely new chip for the Chinese server market that will rival silicon from Intel, the company that currently holds the largest share of the market when it comes to providing silicon in the data center.

The creation of this joint venture is a significant move for Qualcomm, which has made expanding into the data center one of its five strategic priorities after a reorganization at the company in 2015. It's also an interesting step to take after the San Diego, Calif.-based company spent 2015 fighting with Chinese handset vendors to sign licensing deals after agreeing to new royalty agreements in February of last year for the use of Qualcomm's radio technology in their handsets.

Formation of Foreign Invested Enterprise ("FIE") in China

Item	Joint Venture	Wholly Foreign Owned Enterprise ("WFOE")		
		General WFOE	Investment Holding Regional Headquarter ("RHQ")	Management RHQ
Investor	Chinese Investor and Foreign investor	Foreign Investor	Foreign Investor: 1) Shall have \$400M in total asset, invest more than \$10M in paid-in registered capital, and have already established at least one FIE in China; or 2) Shall invest more than \$30M in paid-in registered capital and have already established at least ten FIEs in China.	Foreign Investor: 1) Shall have \$400 million in total asset, and 2) Shall manage three FIEs and have already paid registered capital not less than \$10M, or manage six FIEs
Registered Capital	No minimum requirement	No minimum requirement	\$ 30 Million	\$ 2 Million
Business Scope	Import & Export, Domestic Commercial Activities, Service, Manuf.	Import & Export, Domestic commercial Activities, Service, Manuf.	Investment, Service to its investee enterprise, Service outsourcing, Import & Export, Domestic commercial activities (NO Manufacturing)	Management, Shared service within the group company, Service outsourcing, Import & Export Domestic commercial activities
Duration	30 years	30 years	50 years	50 years
Registration Complexity	Low (3 months)	Low (3 months)	High (6 months)	Middle (3 months)
Note	A JV is often used by foreign investors to enter into the restricted industries.		Qualifications of RHQ applicant: 1) The already paid registered capital is not less than \$100 M; or the already paid registered capital is not less than \$50M, provided that the total assets of the RHQ applicant's investee enterprise are not less than RMB 3B and the total profit thereof is not less than RMB 100M 2) Should contribute at least \$30M of its registered capital to establish new FIEs, purchase equity in Chinese companies or FIEs established by its parent or affiliate company, or set up (R&D) centers. 3) Must have already established one R&D center in China.	Beijing, Shanghai and Guangzhou stipulated their own RHQ rules. Though the rules are similar in structure, each city offers different incentives.