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Urakami Asia Management Research

7 May 2012

Online at <https://mpra.ub.uni-muenchen.de/38614/>

MPRA Paper No. 38614, posted 07 May 2012 12:36 UTC

Outsourcing and corporate social responsibility

– Apple in China –

May 7, 2012

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Abstract

Electronics industry has seen a tremendous industry shift from the developed countries to the emerging regions such as East and South Asia, particularly during the past four decades. And we can now see a huge industrial capability accumulation in Asia.

This research note aims at, firstly, describing basic nature and structure of outsourcing business in Asia, and, secondly, we look into Apple Inc.'s supply chain to examine Apple supplier factory operations in Mainland China from, primarily, an environmental protection point of view.

Based on the initial observation, it is pertinent to say that it is Apple Inc's social corporate responsibility to address recently raised environmental issues and to create a socially responsible supply chain in China.

Key words: outsourcing, supply chain, supplier responsibility, corporate social responsibility

Almost all of the 70 million iPhones, 30 million iPads and 59 million other products Apple sold last year were manufactured overseas. Why can't that work come home? Mr. Obama asked. Mr. Jobs's reply was unambiguous. "Those jobs aren't coming back," he said.....

– “How the U.S. Lost Out on iPhone Work [The original title: ”Apple, America and a Squeezed Middle Class”], *The New York Times*, January 22, 2012

U.S. Outsourcing and Asia

On the day when President Barack Obama presented 2012 State of the Union address to the United States Congress, Apple Inc. announced financial results for its fiscal 2012

first quarter ended December 31, 2011.¹ Apple posted record quarterly revenue of \$46.3 billion and record quarterly net profit of \$13.1 billion with the sales of 37 million iPhones, 15 million iPads and 5 million Macs.

The article, “Apple, America and a Squeezed Middle Class”² in *The New York Times* goes as follows:

Apple executives say that going overseas, at this point, is their only option. One former executive described how the company relied upon a Chinese factory to revamp iPhone manufacturing just weeks before the device was due on shelves. Apple had redesigned the iPhone’s screen at the last minute, forcing an assembly line overhaul. New screens began arriving at the plant near midnight.

A foreman immediately roused 8,000 workers inside the company’s dormitories, according to the executive. Each employee was given a biscuit and a cup of tea, guided to a workstation and within half an hour started a 12-hour shift fitting glass screens into beveled frames. Within 96 hours, the plant was producing over 10,000 iPhones a day.

“The speed and flexibility is breathtaking,” the executive said. “There’s no American plant that can match that.”

Let us now trace back the history of the electronics industry, for instance. The electronics or IT industry has seen a tremendous industry shift to the Asian region during the past four decades. Many electronics products found a passage to Asia with a production site and technology transfer. Global outsourcing strategies followed by American firms accelerated this trend. Significant industrial accumulation has been accomplished in Asia. China, particularly after 1978, received a wave of foreign direct investment and the country has been on a continuous upgrading path in economic power and social structure. The Asian region is increasing its roles in the world

¹ Apple Press Info, “Apple Reports First Quarter Results”, January 24, 2012, <http://www.apple.com/pr/library/2012/01/24Apple-Reports-First-Quarter-Results.html>. The author accessed all the Web sites referred to in this research note on May 1, 2012.

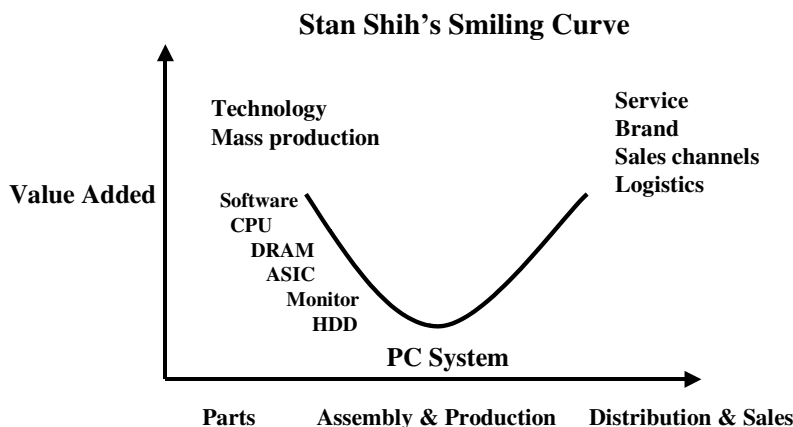
² Charles Duhigg and Keith Bradsher, “How the U.S. Lost Out on iPhone Work [The original title: ”Apple, America and a Squeezed Middle Class”]”, *The New York Times*, January 22, 2012, <http://www.nytimes.com/2012/01/22/business/apple-america-and-a-squeezed-middle-class.html>.

electronics value chains.

Different business models have been created during the course of technology transfer and industry shifts to Asia. Turning to the subject of PC business models in the Greater China region, it is pertinent to touch upon the Taiwanese business model that is often called OEM and ODM model. It is well known that American IT companies have developed international horizontal division of labor based on OEM and ODM business.

The Smiling Curve theory³ was created by Stan Shih, the founder of Acer. Taiwan companies started PC business from ODM and ODM agreements with U.S. firms. The initial activities were clearly centered on assembly and production of PC machines. Taiwan companies started business from the bottom of the curve, and, in the course of actual business, they have enhanced their capability to increase business values (See *Figure*).

Figure **Taiwan Business Model**



Source: Drawn by the author. Reference materials include Shih, Z. R., *iO lian wang zu zhi - Zhi shi jing ji de jing ying zhi dao* [iO Network Organization - Management in the Knowledge Economy], Taipei: Tianxia Shenghuo, 2000.

Any company who places an order with a supplier must remember that it is a part of corporate social responsibilities to make sure that outsourced business can be completed through due process and business ethics. In recent years, however, we have regrettably observed not a few cases where business ethics and corporate governance have perhaps undergone substantial deterioration.

³ See, for instance, Shih, Z. R., *iO lian wang zu zhi - Zhi shi jing ji de jing ying zhi dao* [iO Network Organization - Management in the Knowledge Economy], Taipei: Tianxia Shenghuo, 2000.

Apple's supply chain in China

Apple is not an exception in the electronics or IT industry. Apple knew from the earlier stages of their business development that iPad, iPhone and Mac businesses are service business where the company demonstrates their innovation ability and that the industrial accumulation in Asia, particularly in the Greater China region including Chinese mainland and Taiwan, is excellent enough to realize speed and flexibility they badly need. Apple, therefore, has put every effort to build supply chain or business ecosystem so that they can expedite their business programs.

As the Apple executive mentioned, both speed and flexibility matter in the outsourcing business that Apple developed in China, which almost implies that an extremely speedy and a flexible attitude must be presented by their suppliers in the Greater China region, and it is not surprising even if the extension of this lines of thought leads us to see some cases where suppliers in China have been ill-treated and squeezed. And we can further see that Apple's supply chain in China has been causing environmental protection issues.

“The Other Side of Apple”

On August 31, 2011, a group of environmental protection organizations in China jointly released a second report titled *The Other Side of Apple II* accusing Apple's suppliers of environmental problems including pollution and employees' health and safety problem. A group of NGOs in China published a first report, however, Apple utterly neglected this report, and therefore, Chinese NGOs took almost five months to carry out further investigations into the environmental problems in Apple's supply chain and their efforts resulted in the above mentioned second report.

The Institute of Public and Environmental Affairs translated the original report written by a group of NGOs in Chinese into English for the purpose of reference, and one can download the English report from the Web site of the translator.⁴

The English report explains how environmental pollution spreads and encroaches on local communities and their surrounding environments.

The report describes environmental problems at five companies that include Foxconn (a subsidiary of Hon Hai Precision Industry Co. Ltd., Taiwan), Ibiden Electronics (a subsidiary of Ibiden Co. Ltd., Japan), Meiko Electronics (a subsidiary of Meiko Electronics Co., Ltd., Japan), Kaeder Electronics (a subsidiary of Pegatron corp., Taiwan), and Unimicron Electronics (a subsidiary of Unimicron Technology Corp.,

⁴ The Institute of Public and Environmental Affairs, <http://www.ipe.org.cn/En/>.

Taiwan).

Let us quote some paragraphs from the executive summary of the report:

Through our investigations, we discovered that the pollution from some of Apple's suppliers had already caused severe damage to the environment. Amongst these companies is the Meiko Electronics' plant in Guangzhou, a suspected PCB supplier to Apple Inc. This company had previously schemed to conceal their environmental violations. However, this plan was foiled by the Environmental Protection Department. Within just a few months, this company was penalized for more than ten violations.

Furthermore, the amount discharged from the Meiko Electronics PCB plant, in Wuhan, is even more than that at the plant in Guangzhou. The neighboring lake, named Nantaizi (or Southern Prince), is seriously contaminated. Through third party monitoring the water in the discharge channel to the side of the company's premises was found to contain heavy metals, including copper and nickel, which are standard pollutants from PCB plants. The copper content in the sediment sample, taken from the Nantaizi Lake and the discharge channel intersect reached as high as 4270 mg/kg, which is 56 to 193 times the amount found in the sediment in the major lakes in the middle reaches of the Yangtze River.

The large volume of discharge in Apple's supply chain greatly endangers the public's health and safety. Through the process of our investigations, we discovered several suspected suppliers to Apple that have been the target of numerous complaints from local communities. Located in Kunshan, the two companies Kaedar Electronics and Unimicron Electronics have been subject to repeated complaints from local residents due to their emissions discharge. The residents of this community worry that the health of their children will be severely damaged. More seriously, a village in the vicinity of the company has experienced a phenomenal rise in cases of cancer.

Foxconn Electronics, located in Taiyuan, Shanxi Province, has a huge production capacity and is involved in serious pollution resulting from its metal surface processing. In recent years the local residents have repeatedly filed complaints with local agencies against the Foxconn factory's irritant gases. These gases often leave

the nearby residents with irritated nasal passageways, watering eyes and they sometimes make it hard for residents to open their windows, due to pollution being so intense. The local government has called on the company to control its pollutant discharge many times, but the pollution that severely affects the quality of life for the residents has yet to be resolved.

We have found from this investigation that the volume of hazardous waste produced by suspected Apple Inc. suppliers was especially large and some had failed to properly dispose of their hazardous waste. Each day, Ividen Electronics Beijing Company produces several dozen tons of hazardous waste containing heavy metals copper, nickel and cyanide. However, during further checks the environmental agency discovered that even though there are strict national regulations for the hazardous waste transport manifests to be filled out; in this case they were all left blank. After checks, the agency also discovered that the exact whereabouts of the heavy metals sludge was not clear. Moreover, the Shenzhen Municipal Hazardous Waste Treatment Station who are responsible for the treatment of hazardous waste from the electronics industry, including Foxconn's, was also found to have discharged pollutants against the authorized standards.

Hazardous waste is not only directly toxic to humans and animals, it may also pollute the streams, rivers, lakes and seas and may infiltrate and contaminate soil and ground water through rain and snow, causing long-term impacts that are extremely difficult to remedy and clean up. Apple's rejection to fulfill its responsibility to disclose environmental information will likely cause an immense amount of hazardous waste released into the environment from its supply chain, which could ultimately lead to hidden long-term environmental and public health dangers.

According to the article⁵ in *China Daily* on September 1, 2011, on the day when the report was issued, one of the NGOs, The Institute of Public and Environmental Affairs received an e-mail from Apple's supplier responsibility department saying that Apple would be interested in hearing more specifics on what NGOs discovered about these

⁵ Zhou, Wenting, "Apple to discuss suppliers' alleged pollution with NGO", *China Daily*, September 1, 2011, http://www.chinadaily.com.cn/kindle/2011-09/01/content_13596128.htm.

suppliers. The same *China Daily* article refers to Apple's comment that Apple is committed to "maintaining the highest standards for social responsibility throughout its supply chain."

Who is going to stay at the bottom of the Smiling Curve?

Now let us turn to the Smiling Curve issue for a while. Much recent activity in Taiwan's electronics or IT industry clearly shows a noticeable increase in the number of companies who have moved up the value curve by successfully developing capabilities in parts & components and distribution & sales.

Acer Group and ASUSTeK Computer Inc., for instance, are now reported to take the 4th and 5th positions respectively in the world PC unit shipment data for the first quarter 2012.⁶ Semiconductor companies such as United Microelectronics Corp. and Taiwan Semiconductor Manufacturing Co. Ltd., for example, are established semiconductor companies who primarily provide leading edge manufacturing solutions. AU Optronics Corp. is another good example of a first class LCD company.

Despite the above well-known cases, the majority of Taiwan companies tend to stay around the bottom of the Smiling Curve, although there are seemingly many reasons for such business behavior. One of the main questions at issue here is still related to the capability building and management resources.

Foxconn International Holdings Ltd. (a subsidiary of Hon Hai Precision Industry Co., Ltd, Taiwan), for instance, saw a red ink in 2010, and despite their efforts, business environment surrounding the EMS (Electronics Manufacturing Service) giant has been rather tough.⁷

It is a well-known story that Foxconn's Giant factory in Shenzhen painfully saw suicide accidents. Press and newspapers wrote sad articles on Foxconn suicide.⁸ Particularly, in the first half of 2010, more than ten young Chinese employees lost their lives at the factory of Foxconn, Shenzhen.

Those companies who have been working around the bottom of the Smiling Curve grit their tooth and do their best to survive, and for this purpose EMS or OEM/ODM companies exhibit an extremely flexible attitude.

⁶ IDC Press Release, "PC Market Returns To Positive Growth, Though Gains Remain Small, According to IDC", April 11, 2012, <http://www.idc.com/getdoc.jsp?containerId=prUS23433412>

⁷ Visit the investors page of the Web site of Foxconn International Holdings Ltd., <http://www.fih-foxconn.com/investors/Investors.aspx>.

⁸ See, for instance, Tania Branigan, "Latest Foxconn suicide raises concern over factory life in China", *The Guardian*, May 17, 2010, <http://www.guardian.co.uk/world/2010/may/17/foxconn-suicide-china-factory-life>.

It is often reported that Apple production suppliers in the Greater China region, particularly in China may not actually be happy since it has been hard for them to make a profit.⁹

Has American society become ethically insensible or does a dialog start soon?

The article in *The New York Times* describes “Apple”, “America”, and “a Squeezed Middle Class”, which might be one side of the whole picture. It is my observation that the picture can be seen from Asian side as well, and in this case we can say that a different angle will provide people with a different picture of Apple.

We can not still believe that American media and American citizens, who once expressed their serious concerns to Nike and developed Nike boycott, are not actually paying the same level of sensible attention to what Apple Inc. has recently developed throughout their supply chain in the Greater China region, particularly in China.

Perhaps, it is a good news that the recently published Apple’s 2012 Supplier Responsibility Report¹⁰ has launched a discussion on its suppliers’ working conditions and the environmental issues. Apple’s recent development is a progress and we welcome this step forward.

In fact, how far Apple can go about improving business process whereby their suppliers develop manufacturing activity is a tough job. The article, “Apple’s iPad and the Human Costs for Workers in China”¹¹ in *The New York Times* refers to some comments that the former executive in Apple’s supplier responsibility group made:

“There is a genuine, companywide commitment to the code of conduct. But taking it to the next level and creating real change conflicts with secrecy and business goals, and so there’s only so far we can go.” Former Apple employees say they were generally prohibited from engaging with most outside groups.

We all know that both R & D and product development process including

⁹ It was reported in early June 2011 that Singapore-based EMS provider, Flextronics International Ltd. decided to withdraw from OEM/ODM business of notebook PCs, and at that time, there was a rumor in Taiwan that a second EMS firm might be following such a withdrawal. However, this rumor turned out false.

¹⁰ Apple Inc., *Apple Supplier Responsibility: 2012 Progress Report*, January 2012, http://images.apple.com/supplierresponsibility/pdf/Apple_SR_2012_Progress_Report.pdf

¹¹ Charles Duhigg and David Barboza, “In China, Human Costs Are Built Into an iPad [The original title: “Apple’s iPad and the Human Costs for Workers in China”]”, *The New York Times*, January 26, 2012, <http://www.nytimes.com/2012/01/26/business/ieconomy-apples-ipad-and-the-human-costs-for-workers-in-china.html>

manufacturing within entire supply chain can not be disclosed to the public, it is, however, important for Apple to understand business environment and working conditions where their suppliers develop day-to-day activities. Particularly, transparency needs to exist when it comes to corporate social responsibility and corporate governance.

Concluding remarks

According to Apple Inc.'s press release¹² on February 13, 2012, "the Fair Labor Association will conduct special voluntary audits of Apple's final assembly suppliers, including Foxconn factories in Shenzhen and Chengdu, China, at Apple's request. A team of labor rights experts led by FLA president Aret van Heerden began the first inspections Monday morning at the facility in Shenzhen known as Foxconn City."

FLA audit will perhaps focus on "working and living conditions including health and safety, compensation, working hours and communication with management", as Apple's press release describes, and this is a good start for Apple and suppliers.

A similar audit needs to be carried out to look further into Apple Inc.'s supply chain in China, since, as we discussed in this research note, there have been many problems of environmental protection caused by Apple production suppliers in China.

China has achieved a rapid economic growth during the past three decades, and in the process of this economic expansion, China has also faced with many social problems such as natural resources issues, environmental protection issues, human resources issues, and so on. It is one of the most important national tasks for China, for instance, to accelerate structural reform towards a greener economy and industry.

It is pertinent to say that it is Apple Inc's social corporate responsibility to address recently raised environmental issues and to create a socially responsible supply chain in China.

¹² Apple Press Info, "Fair Labor Association Begins Inspections of Foxconn", February 13, 2012,

<http://www.apple.com/pr/library/2012/02/13Fair-Labor-Association-Begins-Inspections-of-Foxconn.html>

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