CASE STUDY 1: Making the Apple iPhone

In its early days, Apple usually didn't look beyond its own backyard to manufacture its devices. A few years after Apple began producing the Macintosh computer in 1983, the late Steve Jobs boasted that it was "a machine that was made in America." As late as the early 2000s, Apple continued to manufacture many of its computers at the company's iMac plant in Elk Grove, California. Jobs often said that he was as proud of Apple's manufacturing plants as he was of the devices themselves.

By 2004, however, Apple had largely outsourced its manufacturing to foreign countries. The shift to manufacturing reached its peak with the iconic iPhone, which Apple first introduced in 2007. All iPhones contain hundreds of parts, with an estimated 90 percent of them manufactured abroad. Advanced semiconductors originate from Germany and Taiwan, while memory comes from Korea and Japan. Display panels and circuitry are sourced from Korea and Taiwan, chip sets are produced in Europe, and rare metals are mined in Africa and Asia. Apple’s major subcontractor, the Taiwanese multinational firm Foxconn, performs final assembly in China.

Apple still employs approximately 43,000 people in the United States and has retained key activities in-house, including product design, software engineering, and marketing. Furthermore, Apple claims that its business supports an additional 254,000 jobs in the United States, including those in engineering, manufacturing, and transportation. For example, the glass for the iPhone is manufactured at Corning's U.S. plants in Kentucky and New York. However, an additional 700,000 people are involved in the engineering, building, and assembly of its products outside the United States, with most of them working at subcontractors like Foxconn.

When explaining its decision to assemble the iPhone in China, Apple cites a number of factors. While it is true that labor costs are significantly lower in China, Apple executives note that labor costs account for only a small proportion of the total value of its

products and are not the primary driver of location decisions. Far more important, according to Apple, is the ability of its Chinese subcontractors to respond very quickly to requests from

Apple to scale production up and down. In a famous illustration of this capability, back in 2007, Jobs demanded that a glass screen replace the plastic screen on his prototype iPhone. He didn't like the look and feel of plastic screens, which were standard in the industry at the time, nor did he appreciate how easily they scratched. ‘This last-minute change in the design of the iPhone put Apple's market introduction date at risk. Apple had selected Corning to manufacture large panes of strengthened glass, but finding a manufacturer that could cut those panes into millions of iPhone screens wasn’t easy. Then a bid arrived from a Chinese factory. When the Apple team visited the factory, they found that the plant's owners were already constructing a new wing to cut the glass and installing equipment. “This is in case you give us the contract," the

manager said. The plant also had a warehouse full of glass samples for Apple, and a team of engineers available to work with Apple. It had built on-site dormitories so that the factory could operate three shifts, seven days a week, in order to meet Apple's demanding production schedule. The Chinese company got the bid.

Another critical advantage for Apple in China was that it was much easier to hire engineers there. Apple calculated that about 8,700 industrial engineers were needed to oversee and guide the 200,000 assembly-line workers involved in manufacturing the Phone. The company had estimated that it would take as long as nine months to find that many engineers in the United States. In China, it took 15 days.

Also important is the clustering of factories in China; many of the factories that provide components for the iPhone are located near Foxconn’s assembly plant. As one executive noted. “The entire supply chain is in China; you need a thousand rubber

gaskets? That’s the factory next door. Do you need a millinery screws? That factory is a block away. You need a screw made a little bit differently? That will take three hours.”

All this being said, there are drawbacks to outsourcing to China. Several of Apple's subcontractors have been targeted for their poor working conditions. Criticisms include low pay of line workers, long working hours, mandatory overtime for little or no additional pay, and poor safety records. Some former Apple executives claim that there is an unresolved tension within the company; executives want to improve working conditions in the factories

of subcontractors, such as Foxconn, but their dedication falters when it conflicts with crucial supplier relationships or the need for rapid product delivery.

Case taken from: International Business, Eleventh Edition (McGraw-Hill, 2019), by Charles W.L. Hill, G. Tomas M. Hult, Rohit Mehtani.

Case Discussion Questions

1. What are the benefits to Apple of outsourcing the assembly of the iPhone to foreign countries, particularly China? What are the potential costs and risks to Apple?

2. In addition to Apple, who else benefits from Apple's decision to outsource assembly to China? Who are the potential losers here?

3. What are the potential ethical problems associated with outsourcing assembly jobs to Foxconn in China? How might Apple deal with these?

CASE STUDY 2: FDI Bonanza in China

Case taken from The International Business Environment, second edition (Palgrave, 2006), by Janet Morrison.

China has become the new workshop of the world, its factories churning out consumer goods for both domestic consumption and export. Its own growing middle class is a huge market in itself, but more important are growing export markets, in which Chinese production costs undercut virtually all rival locations. Inflows of FDI reached a record $52.7bn. in 2002, followed by $53.5bn. in 2003. This has been a key factor in China's success, and low-cost labour has been the chief attraction for foreign investors. The opening of the economy began in 1979, when China's Communist Party leaders introduced economic liberalization policies aimed at gradually reducing state ownership and control.

These reforms paved the way for outside investors to enter China through joint ventures with local companies. Foreign ownership restrictions have been further relaxed in recent years, and, combined with WTO membership in 2002, China's attraction for foreign investors has continued to rise. As the figure shows, inward FDI stock has rapidly risen from virtually zero in 1980 to 35.6 percent of GDP in 2003. Labour costs have risen in other Southeast Asian economies, including Taiwan and South Korea, and these economies have consequently lost out to China as a manufacturing location, where the cost of unskilled labour undercuts all but Indonesia, Vietnam, and Cambodia. FDI has concentrated in the southern coastal area of the Pearl River delta, which has seen booming industrialization, made possible by seemingly endless supplies of workers. In this area, approximately the size of Belgium, 30 million people work in manufacturing, producing a vast range of products from shoes to computers. The area is home to 800 shoe manufacturers. One of the largest, the Taiwanese company Pou Chen, employs a total of 110,000 workers, 80,000 in one factory, producing 100 million pairs of shoes a year for brands including Nike, Adidas,

Timberland and Reebok. It is estimated that 80 per cent of the stock of FDI in China is held by overseas Chinese investors, mainly from Hong Kong, Taiwan, and Singapore (Story, 2003). These investors have seized the opportunities presented by liberalization, and their Chinese cultural heritage gives them an advantage over other foreign investors. Dr Martens, the British shoe manufacturer, concluded in 2003 that it could not compete unless it, too, shifted production to China. Dr Martens was paying workers $490 per week in its factory in the UK, where assembly of whole shoes was carried out by small groups of workers. By contrast, mass production techniques are used in the massive Pou Chen factories, where workers earn about $96 (£59; a89) a month for a 69-hour week. High-tech industries are also flourishing. Flextronics, a Singapore based electronics manufacturer, is a contract producer for Microsoft, Motorola, Dell and Sony Ericsson. The output of its factory near Zhuhai rose 500 per cent from 2001 to 2002. Ricoh, the Japanese electronics company, makes most of its photocopiers in the Shenzhen special economic zone, which claims to make 70 per cent of the world's photocopiers. While it used to make all its newer models in Japan, Ricoh now uses the Chinese factory to manufacture models only months after they begin production in Japan. Whether FDI flows will continue to rise is a question which concerns both Chinese policymakers and foreign investors. Labour costs are inevitably

rising. More highly skilled work in technology-based industries lures workers away from the likes of the shoe factories, which find it hard to retain workers. A solution adopted by Pou Chen is to build factories further inland, where labour is in abundant supply. One manufacturer explains: 'If we run out of people, we just go deeper into China' (Roberts and Kynge, 2003). It is estimated that there is a pool of some 200 million rural inhabitants who are underemployed: while they are a source of labour for manufacturing expansion, they are also a potential source of social unrest, should economic growth falter. Jobs provided by the continued manufacturing boom would bring economic development to these poorer areas. On the other hand, China's

economic liberalization has not been paralleled by political liberalization. The long-term economic prosperity of its people will require its political and social institutions to adapt to the rapidly changing environment.

Sources: Kynge, J. 'An industrial powerhouse emerges by the waterfront', Financial Times, 23 January 2003; Roberts, D. and Kynge, J. 'What a cheap labour, foreign investment and rapid industrialization are creating a new workshop of the world', Financial Times, 4 February 2003; Story, J. (2003) China: The Race to Market (Harlow: FT Prentice Hall); United Nations (2004) World Investment Report 2004 (Geneva: UN).

Case questions

1. What are the factors in China's FDI boom? How likely is it to continue?