

Production and operations management

[Business](#), [Company](#)



Production and Operations Management Group Assignment How the U. S. Lost Out in iPhone Work New York Times January 21, 2012 The subject of this work is evaluation of the article from the New York Times, dedicated to the peculiarities of the production processes of iProducts by Apple Inc. This article is a result of interviewing of dozens of people related to the company or experts sharing their personal view on the subject, including economists, manufacturing experts, technology analysts, academic researchers, competitors and corporate partners, government officials. The main aim of the article is to evaluate reasons and consequences of a decision of Apple Inc. to move the production of its products abroad. The decision was taken in and implemented in common in 2004 and was in line with exodus strategies of other hi-tech companies. What makes the article being of value for the present work is that the decision of foreign manufacturing is a result of processes management. Despite common point of view, production in China or Taiwan is not only a question of low labour costs causing extreme profits, in Apple's case production in Asia was the only solution. At the same time the article is not only about the production and operations, being a more complex investigation, it also describes social consequences of distribution of business processes between the USA and Asia, trying to announce a new topic to discuss for all of the involved parties: companies, governments and workers. Nevertheless, we will skip the social focusing of the article, and evaluate it from the Production and Operation Management point of view. The article demonstrates how the strategy of the company was realized through selecting of certain production and operational solutions and how the strategy demands made the decision to move the production of iPhones

and iPads to Asia unavoidable. In Apple's case compliance of the decision to move with a strategy of the company is supplemented with, as one may say, the philosophy of the product. The main reason of success of iProducts is that they're of the perfect quality, they're the best mix of technologies available for mass consumption, they have short life cycle (between presentation of models of different generations) and that they're available for everybody who has enough money to afford it and wishes to possess it. As it was evidently illustrated in the article, to meet such demands to the product and to satisfy Mr. Jobs requesting his managers for the perfect product, China was the only place where Apple was able to get it. Major operational advantages of production in China were the speed and flexibility of everything related to the production. No other country might provide Apple with enough workers (including middle-class engineers) of necessary competences and in short terms[1]. At the same time because of support from the government of China, the company might be provided with plants of any capacity with high variability. To get the order from Apple, Foxconn, the leading manufacturer of consumer electronic goods, was building additional plant before getting the order, not even being sure whether the order will be placed. In addition to the flexibility in expanding or shrinking of the capacity the Apple's contractors in China provides the company with high adjustability of the production[2]. But production issues are not the only ones stipulating the decision to move. Logistic and distribution infrastructure is now in the state when few of the companies producing electronic goods may allow to produce not in China[3]. At the same time Asian countries become the significant and permanently growing fraction of the market[4] for Apple

Inc and its peers. In this circumstances even those companies that may allow themselves to keep their production in their domiciles are forced to move to Asia. For example, Corning Inc, Apple's supplier of strengthened glass had to move part of its production to Asia, otherwise additional shipment of materials for production of glass from Japan and Taiwan and then back to China for assembling of cell phones increases the lead time in an unacceptable way[5]. Thus production and supply chain issues makes China the only place for production of iProducts, otherwise the company won't be able to receive it promptly, in any volumes and with highest quality.

Indirectly, the value of the decision may be recognized by the fact that Timothy D. Cook who was guiding the decision became the company's CEO after Mr. Jobs death. But were there alternatives for Apple Inc. and its peers to stay? We suppose that there were none at the moment when the decision was taken. Staying in the USA would mean that the company should change its strategy and give up its global expanding, focusing on less mass and less flexible product. It could allow the company to produce expensive products of extreme quality, something like " hi-tech Vertu", but not iPhones or iPads as we know them. Our personal opinion is that migration of production there and back is a result of implementation of competitive advantages of different countries. If at the moment Asia is providing global companies with best conditions for production and supply chain management, then either you accept this offer or your competitors do, or both. If domestic markets provide companies with best R&D resources, best designers and financial services, you leave corresponding parts of your business at home. If Asia loses its attractiveness and become comparable to conditions on domestic markets

managerial view on effectiveness of processes may change. Production of complex goods involves not only labour costs but also worker productivity, transit costs, time-to-market considerations, logistical risks, energy costs and others. So any country may use its advantage in any of these qualities or its combination to be a new home for iPhones, iPads or iAnything. Sources: 1. How the U. S. Lost Out on iPhone Work. Charles Duhigg, Keith Bradsher. New York Times, January 21, 2012[6]. 2. How America Can Create Jobs. Andy Grove. Bloomberg Businessweek. July 5, 2010[7]. 3. Kodak: A Parable of American Competitiveness. Dina Gerdeman. Harvard Business School. February 6, 2012[8]. 4. Made in America, Again. Harold L. Sirkin, Michael Zinser, Douglas Hohner, Boston Consulting Group. bcg. perspectives. August 25, 2011[9]. ----- [1] Apple's executives had estimated that about 8, 700 industrial engineers were needed to oversee and guide the 200, 000 assembly-line workers eventually involved in manufacturing iPhones. The company's analysts had forecast it would take as long as nine months to find that many qualified engineers in the United States. In China, it took 15 days. [2] " You need a million screws? That factory is a block away. You need that screw made a little bit different? It will take three hours." [3] Though components differ between versions, all iPhones contain hundreds of parts, an estimated 90 percent of which are manufactured abroad. Advanced semiconductors have come from Germany and Taiwan, memory from Korea and Japan, display panels and circuitry from Korea and Taiwan, chipsets from Europe and rare metals from Africa and Asia. And all of it is put together in China. [4] According to the Apple Inc. report for 1Q 2012 distribution between operational segments is as follows, so Asia Pacific and Japan are 24,

4% of the company's sales. | Oper. Segments | Mac Units | Revenue \$ mio | | Americas | 1, 612 | \$17, 714 | | Europe | 1, 482 | 11, 256 | | Japan | 184 | 3, 550 | | Asia Pacific | 814 | 7, 697 | | Retail | 1, 106 | 6, 116 | [5] “ Our customers are in Taiwan, Korea, Japan and China, ” said James B. Flaws, Corning’s vice chairman and chief financial officer. “ We could make the glass here, and then ship it by boat, but that takes 35 days. Or, we could ship it by air, but that’s 10 times as expensive. So we build our glass factories next door to assembly factories, and those are overseas. ” [6] <http://www.nytimes.com/2012/01/22/business/apple-america-and-a-squeezed-middle-class.html> [7] http://www.businessweek.com/magazine/content/10_28/b4186048358596.htm [8] <http://hbswk.hbs.edu/item/6921.html> [9] https://www.bcgperspectives.com/content/articles/manufacturing_supply_chain_management_made_in_america_again/#chapter1