

Case 1: APPLE COMPUTERS

Apple Computers (now Apple Inc.) is a good example of a company that has embraced globalization and has grown very quickly by taking advantage of integrated business processes and information technology. If you have ever purchased or used an Apple iPod, you probably have noticed a label on the back that reads, "Designed by Apple in California, Assembled in China." Apple does not manufacture iPods in its own factories. In fact, it hardly has any factories anymore.

In 1998, Apple Computer was a much different company than it is today. For one thing, there weren't any iPods or iPhones or Apple Stores. The company sold only Mac laptop and desktop computers and a few other similar products. In fact, Apple produced only six main products and sold them almost entirely through a network of resellers. The company manufactured these products in their main factories in Ireland and Singapore, and they controlled every aspect of production and distribution, from the initial design through the delivery of finished products to their resellers. Apple's resellers were typically small, specialized local computer firms that placed orders with Apple for computers and then sold them to local companies or individuals. Unless you knew exactly where to look, it was often difficult to find an Apple computer. In addition, Apple had very little knowledge about its customers because the resellers, and not Apple, actually sold the computers to them.

Over the next 10 years, Apple Computers evolved into Apple Inc., a much larger and more visible company. Consider these numbers. In 1998, Apple Computers had 6,658 employees and less than \$6 billion in revenues. At the beginning of 2008, Apple Inc. had 21,600 employees and more than \$24 billion in revenues. In 1998, Apple generated almost all its revenues through reseller channels. By 2008 they had opened nearly 200 retail stores all over the world and had nearly \$4 billion in revenues just from those stores and Internet sales. Apple's product line had also grown from 6 to more than 27 main products, including digital music, movies, and television through iTunes.

How and why did this transformation occur? The answer is that several things occurred in 1998 that signaled this rapid growth and expansion for Apple and resulted in some major changes in the way the company operated. First, Steve Jobs returned to Apple as its CEO after several years outside the company. At the time Jobs returned, Apple wasn't doing very well. In an attempt to turn the company around, Jobs instituted some very big and difficult changes. Jobs understood that Apple needed to focus on its core competency: designing easy-to-use and engaging hardware and software products. He immediately revamped the product line by modernizing the Mac operating system and providing Apple computers with new Internet capabilities.

In addition, Jobs started to outsource manufacturing operations to specialized high-tech manufacturing companies, primarily located in Asia. Because Apple's core competency was designing the products, they did not need to continue to manufacture these products themselves. Jobs's next initiative was to launch the Apple Online Store to sell products directly to consumers over the Internet. Getting close to customers was crucial for Apple's plans to provide users with a better and more engaging experience.

Finally, Jobs implemented SAP R/3, an enterprise system, to manage all the new processes that resulted from the other strategic changes in product design, manufacturing, and sales. Every one of the strategic business changes that Apple made in 1998 fundamentally transformed the core business processes that had been in place for many years. For these new processes to be effective,

they had to be visible and accessible to employees across Apple's entire spectrum of business operations. They also had to eliminate several areas of inefficiency among groups in the company. The information systems that were in place in 1998 could not grow to support the expansion in product categories, geographic locations, and revenues. Therefore, Apple had to implement an integrated enterprise system that would be able to grow flexibly as the company's business expanded.

Since 1998 Apple has continuously expanded its enterprise system to incorporate new business processes and capabilities. By 2008 Apple had one of the largest and most advanced integrated enterprise systems in the world. The company manages every iPod, iPhone, Mac, and other Apple product from the design phase through final sales in a set of integrated enterprise systems. In fact, Apple's enterprise systems are so critical that its business would come to a halt if these systems stopped working for even a few minutes.

(Source: Compiled from Apple Inc. Annual Reports; and "Hard Sell," Information Week, March 1, 1999.)

Case 2: NINTENDO WII

When Nintendo introduced the Wii gaming console in 2007, it was an immediate hit with consumers. In fact, it became so popular so quickly that Nintendo was unable to build enough units to keep up with the demand. The company had sufficient production capacity, but their factories weren't building enough units because they couldn't get the necessary amounts of raw materials from their suppliers as quickly as they needed them. Nintendo had planned for the manufacturing capacity to meet demand, but it had failed to communicate the increased requirements to both their purchasing department and their raw material suppliers.

The increased lead times for raw materials in turn led to a severe increase in the cycle times for production and delivery of finished goods to stores. That is, it took Nintendo much longer to produce the Wii because the factories had to wait for suppliers to provide them with the necessary materials. As a result, Nintendo missed an opportunity to sell more products and meet the consumer demand. These delays not only cost Nintendo a great deal of revenue, but they also enabled Nintendo's competitors to sell their products to consumers who otherwise would have purchased the Wii. One analyst estimated that the Wii shortage cost Nintendo close to US\$1.3 billion.

Source: Compiled from Nintendo company reports; and "A Year Later, the Same Scene: Long Lines for the Elusive Wii," New York Times, December 14, 2007.

Case 3: CISCO SYSTEMS

In 2001, Cisco Systems was selling huge amounts of their key networking products, driven largely by the dot-com boom. Cisco was having a difficult time keeping up with the demand for their products due to severe shortages of raw materials, so they had placed double and triple orders for some parts with their suppliers to “lock up” the parts. In addition, they had accumulated a “safety stock” of finished goods based on optimistic sales forecasts. When the Internet boom started to crash, however, orders began to taper off quickly. Even more damaging for Cisco, the company was unable to communicate the drop in demand through their organization so that they could reduce their production capacity to sell off their “safety stock” of finished goods and also reduce the amount of raw materials they were purchasing to reduce their supply buffer.

This mismatch between lower demand, substantial inventories of raw materials, and excessive production capacity ultimately forced Cisco to write off more than \$2.5 billion of excess inventory from their books in 2001—the largest inventory write-off in history.

Source: Compiled from: Cisco company reports; and “Cisco ‘Fesses Up to Bad News,” Infoworld. April 16, 2001.

Case 4: NIKE

In 2000, Nike produced too many of the wrong shoes and not enough of the right shoes due to a mismatch between what their demand planning process was telling them to produce and what their customers were telling them they wanted. The production planning department generated an incorrect demand forecast within their departmental information system for the shoe group. Compounding this error, the manufacturing, procurement and sales departments never checked to see if the forecast matched what their customers were requesting in the sales department. Instead, these departments simply took the demand forecast generated by the planning system and typed it into the manufacturing system, thereby generating the procurement requirements. The information system in the sales department was never double-checked to determine what the actual customer order levels were.

Even though Nike had highly advanced information systems in its forecasting, manufacturing, sales, and procurement departments, the lack of visibility across the entire process, coupled with manual integration across the departmental systems, cost Nike more than \$100 million that quarter. In addition, their share price went down 20% the day after they publicly announced the mistake

Source: Compiled from: Nike company reports; "Supply Chain Debacle," Internet Week , March 5, 2001; and "Nike Rebounds: How (and Why) Nike Recovered from Its Supply Chain Disaster," CIO Magazine , June 15, 2004.

Case 5: DELL

Unlike Nike, which implemented a functional system, Dell is organized around a process view of computer sales and manufacturing. Dell largely operates on a business model that builds computers after the company receives an order from a customer, an approach known as make-to-order. The process of building the computer begins as soon as Dell receives the customer order (and usually the payment). This order triggers different steps, including procuring the components, building the computer to exact specifications, shipping the computer, and so on. In contrast, most other computer manufacturers try to forecast what customers will want and then procure the components needed to produce them. They then build the computers in advance and sell from their stock of finished goods.

Because Dell was a new company and did not have a historical functional organization to deal with, they could radically rethink their process for building and selling computers and then build their company around the new process. This process-based production model enabled Dell to become the leader in the personal computer industry and remain much more profitable than their competitors.

Source: Compiled from: Dell company reports; and "Supply Meets Demand at Dell Inc.," Accenture, accessed July 22, 2008, http://www.accenture.com/Global/Services/By_Industry/Communications/Access_Newsletter/Article_Index/SupplyComputer.htm