CASE 6.1

EC Application

NIKE'S SUPPLY CHAIN: FAILURE AND EVENTUAL SUCCESS

Back in the 1970s, retailers placed orders with Nike 9 months before the required delivery date. These orders were then forwarded to Nike's manufacturing units around the world. Nike guaranteed that 90 percent of their orders would be delivered within a set time period at an agreed-upon fixed price. This system initially worked well.

However, during the 1980s and 1990s, Nike's business expanded and became more and more global. At the same time, customers became more demanding regarding quality, style, and comfort, and, as a result, product sophistication and variety exploded, causing demand forecasting, manufacturing, and distribution to become increasingly complex. Nike's supply chain managers were soon dealing with hundreds of styles of shoes, each offered in both a large number of different color combinations and sizes. Thus, even without considering the raw materials and equipment sides of the business, Nike had an enormously complex global supply chain.

In 1999, supply chain factors, particularly demand and inventory forecasting, manifested themselves in the bottom line: Profits dropped by 50 percent. Nike management's analysis and assessment of the situation led to the launch of NSC, the Nike Supply Chain project. This initiative was aimed at bringing about excellence in supply chain processes. The first element of the initiative was an attempt to improve the somewhat fragmented and failing demand forecasting and order management activities in Nike. In 1998, 27 order management systems led to poor demand forecasting and, hence, ineffective supply chain management overall. To overcome a number of the supply chain management problems, Nike decided to acquire and implement i2 Technologies' demand forecasting system.

The i2 Technologies implementation was begun in 1999 with a projected cost of $40 million. The objectives of the project were ambitious and included detailed forecasting of over 1 million stock keeping units (SKUs). Where the i2 Technologies' standard software did not exactly meet Nike's requirements, extensive customization was undertaken. Further, large amounts of data were fed into the i2 Technologies' system from legacy systems within Nike. From this data, sophisticated and complex algorithms automatically generated thousands of forecasts that were used to drive Nike manufacturing.

In the latter half of 2000, the demand forecasting was found to be faulty, causing Nike to overmanufacture some products, while struggling to meet demand for others. For example, Nike overproduced poor-selling shoe lines such as Air Garnett II by $90 million worth of product, while underproducing popular lines such as Air Force One by $80 million to $100 million worth of product. It took about 6 to 9 months for Nike to overcome its inventory imbalance and more than 2 years to make up the financial loss. In setting things right, many shoes were sold at heavily discounted prices.

Nike analyzed its i2 Technologies' demand forecasting application in an effort to correct the problems and move forward. Immediate lessons learned involved the need for more adequate training of users, more comprehensive testing of the application, better data cleansing, and more careful integration of the application with other information systems. The extensive customization of the i2 Technologies' software, which, among other things, broke forecasts down to individual styles, added undue complexity to an already complex project. Generally, the review of the project found that there was altogether too much reliance on automatically generated forecasts rather than a judicious blend of human judgment and intuition together with the statistical analysis.

Looking back over the problematic project, Nike management felt that the initial attempt to bring about supply chain improvements had been too ambitious. Deadlines had been too tight, and the implementation had been rushed. The complexity of the undertaking had been increased and focus had been lost because Nike had, in addition to the i2 Technologies' project, attempted to implement a SAP ERP system and Siebel's CRM system at the same time.

Nike moved to take control of its supply chain project, eventually moving its shoe product lines forecasting application onto SAP, where the forecasting was based more heavily on forward orders and planners' judgment rather than relying on statistical algorithms. After considerable improvements, i2 Technologies' system continued to be used for Nike apparel lines. By 2004, its implementation of i2 Technologies' forecasting system, SAP's ERP system, and Siebel's

CASE 6.1 *(continued)*

CRM system was complete, giving Nike an integrated and efficient supply chain.

Nike had spent 6 years and $800 million on the project. Generally speaking, despite the early problems, Nike management was well satisfied with the project. The project had enabled Nike to shorten its lead time for building footwear from 9 to 6 months, and its enhanced capabilities in planning and tracking inventory resulted in a return on investment of 20 percent in 2004 alone.

Sources: Compiled from Koch (2004) and Chaturvedi and Gupta (2005).

Questions

1. What factors led to Nike's supply chain being such a challenge to manage?
2. What factors led to the i2 Technologies implementation being a highly complex project? Were the increased complexities really necessary?
3. What was wrong with Nike relying heavily on automatic statistical forecasts generated by the i2 Technologies' software?
4. What solutions were employed?