

# Desperately seeking supplies

**We sometimes forget how complex supply chains are. Simplicity in design and ease of use are some characteristics of successful electronic consumer products; but the supply chains for these products may be complex and involve design in one country, manufacture in another and sale in a different region. For the purchasing and supply management professional, the need to ensure security of supply of products and services for the organisation to function remains a key objective.**

This Knowledge Byte will illustrate examples of this complexity drawn from different business and organisational sectors. It will then detail the implications of failure in the supply chain and suggest some solutions for tracking supplies.

Meeting cost targets, accessing new markets, and sourcing innovative products demanded by customers prepared to pay premium prices, are some of the reasons supply chains have increased their geographical spread through outsourcing activities. There is no standard length for a supply chain. They will vary according to the nature of the industry and the products being sold. Using the example of the retailing environment, the different parts that make up a training shoe may be made in several countries following the strategic plan. The strategic objectives would reflect the availability of resources, applicable legislation, tariff barriers and so on. In the case of the grocery retail environment, produce may be sourced from farms in many overseas countries, for example, Bolivia or New Zealand, processed and then air freighted to Western markets.

In high end fashion retailing, delivering innovative clothing to the market as soon as possible after the fashion shows is the key to attracting the fashion setters of today who will pay premium prices to be the first to wear the latest clothes and accessories. Some amazing planning takes place between designers, manufacturers and logisticians to get goods to market.

Most of the time, the customer experience is that the supply chain works just fine. Where problems do occur, rectification is required. Not having the goods in the right place and at the right time can lead to consequences from mild irritation to a loss of life. For the retail customer, if the product is not available on the shelf when required, it is a lost sale. This is the gravest of sins to commit in the retail environment. This has implications for the bottom line. There are several good examples of this. In the case of Cisco Systems Inc, \$2.2 billion in unusable inventory was written down due to problems in its supply chain – due in part to a materials planning system that allowed demand for components to be double- and triple-counted across its suppliers. But these operational losses, large as they are, represent only part of the true cost of supply chain failures. A study by Vinod Singhal and Kevin Hendricks in the January 2002 edition of Supply Chain Management Review found that these companies see their share price drop by 7.5% on the day of the announcement of the problems. There is evidence of financial uncertainty during the period preceding declaration of the supply chain failure and also in the period subsequent to it.

Of course there are also occasions where the failure to have stock when required can cost human lives. This has been the case recently in Afghanistan where devices to prevent the activation of roadside bombs was not fitted to vehicles going out on patrol because it was not known where the devices were in the supply chain. Nobody knew that the devices were in the stores.

The consequences of supply chain failure demonstrate the importance of knowing where goods are in the supply chain. One means of doing this is through the use of radio frequency identification technology (RFID).

RFID tagging is a form of Automatic Identification and Data Capture technology (AIDC), where data on a particular item is stored on a tag. The tag will be attached either to the item itself or to the packaging (whether to the container, pallet or outer/inner packaging). As the items move along the supply chain an RFID reader is able to communicate with the tag via a radio frequency link and identify the object to which the tag is attached. The principle is similar to the more familiar bar code, where data is transferred optically. The RFID reader then transfers the information to a network or computer management system for processing and final application. It is by using RFID or similar technologies that movement of supplies through the supply chain can be made secure.

Another advantage to using RFID is that it develops confidence in the supply chain by enabling traceability in the food supply chain; for example from the farm to the supermarket. This is especially important at a time when legislation is backing consumer pressure on the provenance of foodstuffs.

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Ensuring the security of supply of goods is one of the key tasks for the purchasing and supply management professional. This Knowledge Byte has drawn on the complexity of the supply chain, and shown how RFID is one tool in managing procurement risk. More detailed information is available in the Professional Resources area of the CIPS website or from the Professional Practice Team.

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