

Media Room Article – Mapping the Supply Chain of the Future

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Supply chain strategies go beyond the usual cost efficiency and shelf availability, and now cover a range of concerns including carbon emission, water, security and regulations. CIOs need to plan for these and future needs.

A sector that's very much aware of supply chain management is the pharmaceutical industry, which has many compliance obligations placed on it, given the critical nature of its products.

Douglas Pharmaceuticals of west Auckland is a \$143 million company with 450 employees.

Its two key lines of business are servicing the New Zealand retail pharmacy market and developing and licencing the supply of generic medicines that are exported globally.

Chief financial officer Rod de Spong says a key requirement for the pharmaceutical sector is managing strict compliance obligations. Under the Good Manufacturing Practice and European Union regulations, Douglas Pharmaceuticals is required to implement an extensive testing regime for its supplies, says de Spong.

It's not just the raw materials for the medicines that have to be tested and audited, says de Spong, but also packaging. Douglas Pharmaceuticals uses "relatively sophisticated" testing and auditing processes to ensure sound supplies, according to de Spong, and manages this by building in sufficient manufacturing lead time for its products to cover for additional time needed. Raw materials are not problematic for Douglas Pharmaceuticals, he says. Instead, the supply chain auditing and testing mostly catches packaging and cartons being out of specification.

An important supply chain management requirement for the pharmaceutical industry is traceability, de Spong says. "This is really the wider issue, as there is counterfeiting of products and we have to ensure that ours are, for instance, tamper-proof," he adds.

Green supply chains are becoming increasingly important as well, says de Spong. Douglas Pharmaceuticals is looking at sourcing electricity through environmentally friendly ways such as wind and hydro-generated energy. Transporting products to retailers and wholesalers also falls under the environmental auspice and the company is looking at different ways of shipping than air-freight, to meet its green obligations. The same goes for packaging, which Douglas Pharmaceuticals is refining to meet more stringent environmental standards.

Key to successful supply chain risk management is integrated Enterprise Resource Planning software.

According to de Spong, Douglas Pharmaceuticals has moved to SAP ERP recently, and is starting to see the benefits of this. Thanks to the integrated ERP platform, the company is able to push important information to executives who need it, and model its business processes to monitor and minimise supply chain risks. Without the integrated SAP ERP platform, Douglas Pharmaceuticals couldn't have achieved this, he says.

It is also looking at deploying further technology to make business and supply chains work together more effectively. "It's been a bit of a journey, but now the basic infrastructure is nailed down," de Spong says

and adds that Douglas Pharmaceuticals is testing RFID technology for deployment throughout the enterprise.

The company is constantly working to speed up testing processes and automation for its laboratories, and investing in technology. The rationale for doing so is simple: “We’re up against low-cost manufacturing countries, and have to keep our technology platform up to scratch to remain competitive.”

CIOs and the supply chain

Management consultancy CapGemini has been studying the future of the supply chain. One conclusion from its 2016 Future Supply Chain report is that the complexities of the challenges facing the supply chain are not the sole responsibility of the supply chain manager.

New factors are becoming increasingly critical such as traffic congestion in urban areas, energy consumption, CO2 emissions, the permanent rise in transportation costs and a raft of new legislation. Anthoula Madden, vice-president of consumer products and consulting services at CapGemini, was involved in the production of the 2016 report. She describes the current supply chain as, “focused at the moment on the replenishment of the outlets, but not enough on planning and other processes, such as returns or removal of waste and recycling materials. A lot more integrated planning is required.”

Nigel Bagley, director of customer development at food and household goods manufacturer Unilever, agrees and recently told experts, “We can’t continue to operate with a supply chain that was developed decades ago on a historical method of manufacturing and delivery. The world has changed and we have to change our supply chain to adapt to it.”

Shape of things to come

As well as a focus on keeping retail outlets fully stocked, CapGemini found the majority of supply chains are also focused on reducing costs and supporting the ROI objectives of the business and its brand reputation, which is of course the role of every division of the business. CapGemini say new targets will be introduced, such as a reduction in the energy consumption and meeting targets to reduce traffic congestion. The 2016 report includes a seven-point supply chain modernisation plan, with the following recommendations for organisations to consider:

- In-store logistics — shelf-ready products.
- Collaborative Logistics — sharing transport and warehouses.
- Reverse Logistics — product recycling, packaging and returnable goods.
- Demand Fluctuation Management — more planning and monitoring.
- Labeling.
- Alternative energy forms and more efficient vehicles and buildings.
- Joint business planning.

“Current KPIs can be used to measure supply chain efficiency, they do not adequately address supply chain sustainability,” the report states.

Its seven solutions bring the CIO into the fold. In-store logistics, which will require greater adoption of radio frequency identification, reverse logistics and greater use of alternative fuels are self-explanatory changes; but sharing transport, warehouses and information between high street rivals is a giant leap forward in business collaboration.

CapGemini see collaboration as imperative to the future supply chain. “Getting products on to the shelves will not diminish as a pressure, but organisations will have to become more dynamic,” says Madden. Transport, warehouses and information will have to be shared between manufacturers, retailers and logistics suppliers, the 2016 report states.

“The future supply chain is expected to provide clear benefits for our society, for industry, for individual companies and ultimately for consumers and shoppers,” the report states. But the report’s analysis sees these challenges as being positive for organisations, with transport costs reduced by 30 per cent per pallet, handling costs per pallet down by 20 per cent and CO2 emissions per pallet reduced by 25 per cent, while the report confidently predicts that on-shelf availability will not be diluted.

Technical demands

Anthoula Madden at CapGemini believes the greatest technology challenge is the lack of standards in retail supply chain information management. She highlights the Global Data Synchronisation Standard, but says it has been very slow to be adopted. “The trouble is retailers are still in the process of adopting ERP and removing legacy systems. Adoption of the Global Data Synchronisation Standard will enable collaboration,” she says.

In manufacturing, she says the picture is better understood as SAP ERP systems have become de facto technology, and “that is the big difficulty for the two sides of the supply chain”.

CapGemini believes this new model of a supply chain is only achievable with greater collaboration “among all parties in the supply chain” and it will require “improving such collaboration demands new ways of working together in the physical supply chain”. If industry leaders collaborate, they also believe the government will “enact more appropriate regulations”.

Technically, the report says this will require a standardised information infrastructure that is flexible, operates in real-time and uses demand data from the consumers as its starting point to give greater clarity of product demand. “Information about the actual status of items in the supply chain, at any moment, is essential to correctly co-ordinate all the combined logistic streams,” the report states.

CapGemini does not underestimate the level of trust that will be required between supply chain partners, but see it as crucial. For the CIO this means the development of a platform for the exchange of information with the web as the platform.

“CIOs are currently involved to the point of delivering systems and meeting the requirements of the business. They are looking at today’s requirements and they need to be looking to the future,” says Madden. “Because collaboration will become more important, along with the needs of the organisation to reduce emissions,” she adds.

CIOs becoming involved in the supply chain will need to develop an information architecture that enables collaboration. “This will mean that an organisation will have to have a service-oriented architecture in place for this greater flexibility and the ability to share data. When this is in place, an organisation can change its KPIs.”