

## ARTICLE FOR FOOD MANUFACTURE

### **Building the Lean Supply Chain**

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Over the last decade food retailers have demanded a very rapid response and perfect quality from food manufacturers. They in turn have endeavoured to forecast exactly what the retailers will order and have supplied them from stocks of finished goods held in their own distribution centres.

Both parties have invested large sums in more advanced planning and forecasting systems. However these have not significantly improved the accuracy of forecasts and the data on which they are based, or led to reduced stocks and higher in-store availability. And food manufacturers are still juggling gyrating orders from retailers and having to change their schedules on a daily basis.

Perhaps the most significant development in recent years has been the retailers taking over responsibility for primary distribution and moving to factory gate pricing. However this is only the most recent step down a quite different path to reshaping the grocery supply chain, which opens up several new opportunities for food manufacturers.

Back in 1996 Tesco recognised how much they could learn from Toyota. Their aftermarket parts distribution system, supplying over 400,000 parts to their car dealers across the world is probably the most efficient supply chain in the world. It operates as a series of tightly integrated replenishment loops. Dealers order and receive the parts they need from Toyota's distribution centres every day. Their shipments form the basis for ordering the parts from suppliers to be picked up the next day. After several years working with their suppliers, two thirds of them are now also capable of making every part that is required in a day each day. As a result Toyota achieves the highest levels of availability to their dealers, with much the lowest stock levels and the smoothest order signals in the auto industry.

In the grocery industry the first step was to build the capability to continuously replenish every store from Regional Distribution Centres. This makes a big difference to on-shelf availability and the ease and costs of restocking the shelves. It also takes a lot of noise out of the order

signal. This in turn is the key to being able to continuously order product from suppliers, which makes it possible to build the next replenishment loop, picking up products from suppliers.

It will take time to sort out the best combination of consolidation centres for smaller suppliers, mixed product milk rounds and cross-docking. But the experience from Seven Eleven in Japan, which runs just such a synchronised distribution system, is that little and often delivers higher availability at lower cost than waiting for a full truck load before delivering to retailers. The savings include timed deliveries, no waiting to unload, no expedited shipments and much higher truck utilisation.

The biggest gains however from much smoother orders and more frequent pick-ups are that manufacturers should be able to hold less stock to achieve the same service level, and maybe even get rid of their National Distribution Centres altogether. But the real opportunity is to learn how to make every product to demand with stable schedules. Completing this replenishment loop is the next step for the grocery industry.

Learning to separate the different product flows through the plant is the first step. In almost every case a few product lines account for a large part of the output. It is not so difficult to envisage producing these in a repetitive fixed sequence and to flow these right through the plant in line with demand. At the other end of the scale there are many products made in very low volumes. These need to be scheduled and produced to order when they are needed. However there are many products in between that might need common packaging or different ingredients so they can be added to the high volume products that flow through the plant.

Learning to reconfigure and improve the availability of your equipment to create uninterrupted flow through the plant for most products is a challenge. But much of this lean manufacturing knowledge is readily available. Learning that you can simplify your ordering system and produce exactly in line with customer demand if you receive smoothed orders from retailers is the big win-win for the future.