

SUMMARY OF THE SPEECH TO THE FOOD MANUFACTURE COLLABORATION FORUM – London 17 November 2004

The Purpose and Context for Collaboration

Professor Daniel T Jones*

*Co-author of Lean Thinking and Chairman of the Lean Enterprise Academy at www.leanuk.org.

Over the last decade food retailers have demanded an ever quicker 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.

WebVan in the USA and Sainsbury's in the UK are salutary lessons for those who place too much faith in big, automated systems. The naïve use of RFID, namely bolting it on to current systems, is likely to bring them to a halt with extreme data overload. The fundamental problem with these technologies is the logic on which they are based and their inability to cope with minute by minute changes on the ground. These never get incorporated into the data on which the next forecasts and schedules are based, setting in motion a Chinese whispers game in which the plan diverges from reality and is bypassed by those having to implement it.

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, when we first began working with them, 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.

To build a functional equivalent in the grocery supply chain entailed putting in place some key building blocks. The first step was to build a much more accurate picture of who was buying what, when and where. This in turn helps to plan exactly what to stock in what store at what time. After a lot of hard work Tesco's Clubcard gives them a much clearer picture of the different lifestyle clusters who shop in each store, on which they can now make store based ranging decisions. It is in fact a more sophisticated version of the simple system in the Seven Eleven convenience stores in Japan, where they record the sex and age range of each purchaser. This allows them to custom range stores and to adjust this at different times of the day. Knowing exactly what to stock is a big help in smoothing orders upstream.

The second step was to build the capability to continuously replenish every store from Regional Distribution Centres and to move towards flow through stores in which the product moves right to the shelf without being delayed in the back room. This addresses one of the biggest costs in the grocery supply chain – the last 100 metres to get the product from the truck and on to the shelf. It also makes a big difference to on-shelf availability and 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. This third step will take some time to work through 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 (and indeed Toyota), 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.

This in turn needs to go hand in hand with the need for flow through RDC's where high volume products are not put away but are cross docked to the truck going to the store. 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 fourth step for the grocery industry.

Many food manufacturers used to living with constantly changing schedules switch off when you start talking about making every product every day in line with levelled demand from customers – at lower cost and with stable schedules. Yet it is now possible to show how this can work in a matter of weeks for the highest volume products you produce. The variation on these products is a small percentage of production and as we get a smoother signal that more closely corresponds to actual EPOS sales we realise most of the noise was created by the way we handle information and the just-in-case algorithms in our systems.

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.

There are two important new trends that will push this logic further in the next few years. Time pressed consumers are placing an increasing preference on convenience. As we will show in our forthcoming book this is part of a much bigger wave as we reach the end of the era of mass consumption. The “Big Box” store is no longer the preferred retail format and customers will continue to use different formats at different times during the week or month. Indeed for food the trend is to purchase more of it closer to home, whether in the form of food service or ingredients.

The key to serving this multi-format world is to build a common replenishment system to serve every kind of format, from mega store to convenience store and home shopping. This is exactly what is behind Tesco's strategy for redefining the convenience store of the future. The next step in my view, once a common replenishment system is in place, is to integrate home shopping with the local point of contact, the convenience store. This then makes it possible to access the full range of 100,000 products from the mega store within hours, which can either be picked up from the local store at the end of the day or delivered straight to the home. This is already happening for most bulky electrical goods.

On the one hand this will be good news for manufacturers – as there are fewer opportunities for creating noise in the signal from small stores – and bad news in that retailers will demand near 100% availability of product. This can only be met by developing the every product every day production capability we outlined earlier. I was always of the view that rapid replenishment supply chain practices could easily be copied by a convenience store chain. So there are plenty of innovative opportunities for all kinds of retailers to compete in this market. The key question for manufacturers is who you are going to work with in developing your leading edge capabilities?

The second trend follows on from this. If retailers are placing more weight on rapid responsiveness then this will in many cases force a rethink about where it makes sense to manufacture food. One can envisage splitting up a central drinks plant and moving some lines to regional plants located right next door to a cluster of retail RDCs. This could in fact bottle and can drinks under contract to several manufacturers. Combine this with right-sized blending, filling and packaging equipment with printing after filling and you could easily imagine it being capable of undercutting the big centralised plant with its complex IT systems and extra inventories and shipping distance. Again the implications of this logic of what we call value stream compression will vary from product to product. However it will force some unconventional rethinking about the appropriate equipment to buy in the future and the total supply chain costs of different location decisions.

If you are interested in exploring these strategic issues further then join the Strategic Workshops for Food Manufacturers the Lean Enterprise Academy is running next year with the TPL Mandy Group. If you want to learn more about lean production and every product every day you can do so by attending the **Producing to Customer Demand and Creating Level Pull** workshops in Ross On Wye on December 7th and 8th and the

Lean Logistics workshop on December 9th being given by Toyota's logistics provider, Transfreight. Full details can be found at www.leanuk.org or by contacting the Lean Enterprise Academy at info@leanuk.org or 01989 764440.