

Rapid, Reflexive, Replenishment

Dear Lean Community Member

Maybe a good New Year's resolution for us all is to begin to take responsibility for leaning and compressing our entire supply chains. Ultimately the success of every business is determined by the success of the supply chains of which they are a part, just as a supply chain is only as strong as the links in the chain. Whether we like it or not a supply chain, or more accurately an extended value stream for each product family, is a shared process between all the parties, and needs to be managed as such.

But where does your value stream begin and end? Probably back to the raw material processing for your longest lead item. At the other end I would argue it does not just end with the consumer purchase of your product – but through the life of the product to its replacement or disposal. Even if we just count back from the point of purchase, how long is your supply chain? Longer than the 319 days to make a cola can or double that to make a pharmaceutical pill? This is something every business should know.

The second fact everyone should know, but few really do, is how well does this value stream really serve the needs of its end customers? The results will probably shock you. Grocery retailers setting up to supply orders placed on the Internet discovered they could only fulfil about two thirds of the items customers actually ordered, even though the availability of individual items was close to 98%. As a consequence many customers are dissatisfied with the substitutions made on their behalf. Think about how often you found the shoe size you wanted in the style you chose – and then remember that at least one third of the shoes in stock, which you did not want, will be remaindered at the end of the selling season. In other words, how do you disappoint your customers? And how much effort and hassle is required on their part to get what they want from you, if it does not go right first time?

The true performance of your value streams can only be understood by taking a walk. I was recently reminded of the first value stream walks we did with a combined management team from Tesco and its key suppliers back in 1996. We walked the path of several products back from the store through two warehouses to production and packaging. No one had done this before and it opened their eyes and triggered Tesco's lean journey.

After a bit more digging, particularly to follow the order through the information processing maze, it became clear that the way to both improve the fulfilment of the shopper's basket and to cut swathes of inventories and cost from the system was to dramatically compress the value stream through a series of tight, continuous replenishment loops. Store sales should trigger replenishment of exactly the same quantities from Distribution Centres. Shipments from Distribution Centres should trigger daily pickups of exactly the same quantities from suppliers. These, in turn, should trigger daily production of the exactly the same quantities, and so on back through packaging and the production of ingredients. The ultimate example of a one-touch, flow-through product is soft drinks placed on rolling dollies at the end of the production line, which are wheeled through distribution to become the shelf fixture from which the customer selects the product. The same logic applies to slower selling products (the majority in

most supermarkets) but with either an appropriately longer replenishment cycle – every three days or every week – or by more frequent deliveries of mixed-product shipments of the required quantities.

The model for us, and still the most impressive supply chain in the world, is the Toyota aftermarket parts distribution system we described in *Lean Thinking*. This still sets the global standard for how to run a lean replenishment system, with lean Distribution Centres, milk-run mixed-load deliveries picking up products and cross docks.

In the early 1990s Toyota built two highly automated warehouses in the USA and Japan and discovered these could never match the efficiency and flexibility of their manual lean warehouses. They also knew from experience that big centralised ERP scheduling systems can never beat a series of simple reflexive pull loops. Economic Order Quantity logic leads to noise and expediting rather than the optimal use of assets. WebVan, the home shopping firm in California, went bankrupt trying the automated route. And Sainsbury in the UK and Coles Myer in Australia are now struggling because they followed the same path. When will we learn?

While manufacturers can learn a lot about rapid replenishment from retailing this is not the only place to look for inspiration. Earlier this year I visited a plant making contact lenses. They were busy planning an even bigger, faster machine. This sounded like “hurry up to wait” to me. True enough these lenses went through three different warehouses, each containing mountains of stock and no doubt highly automated, before they reached the customer. And demand for contact lenses is by definition very flat! I suggested they make and ship just the right number of lenses directly to each customer’s home or design simple, but less “efficient” machines that could make these lenses in a local dispensary while customers waited. The room went quiet at this point, until someone said “We never thought of that!”

What would happen if you applied the same logic to your supply chain? How short could it be? What difference would this make to your customers? What would this do to your investment, design and production costs, and the location of your activities? And how would this change your impact on the environment?

I look forward to hearing both stories of how long your existing value streams are – and given a blank sheet of paper, how short they could become.

Yours sincerely
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P.S. If you are in the grocery industry you might like to explore these issues with us by joining our “What’s in Store” Strategy Workshops, beginning on January 20th. I will also be presenting our latest findings at the first Lean Summit of 2005 in Melbourne, Australia on March 1-2 and at the Reorganising Healthcare Summit in Adelaide on March 8-9. The next LEA workshops will be on April 18-21. Details of each of these are on our web site www.leanuk.org