



Just in Time or Just Too Late -

Making Kanban Systems Work

Kanban or Pull systems of various types with are becoming more and more common across industry. They are cheap, simple to operate and can lead to large cost and inventory reductions. Here are some guidelines to help make your pull system work effectively:

Keep the Lead Time Short and the Interval Frequent

Pull systems trigger the ordering of materials based on previous usage. The longer the lead time for supply of the parts and the less frequently parts are replenished, the less successful the pull system will be. Implementing pull system goes hand in hand with efforts to reduce batch size and shorten replenishment lead times and order smaller quantities more frequently.

Kanban is not “Set and Forget”

Pull systems need to be maintained. Regularly review (every three to six months) the settings in the pull system to account for changes in demand, changes in the way parts are delivered or packed or changes in suppliers. You may need to add or remove kanbans, adjust trigger points or change kanban quantities.

Good Shop Floor Disciplines are Required

To maintain an effective kanban system there must be a culture of returning things to the place they come from. Loosing kanban cards can also be a major problem. Where these disciplines don't exist, implementing 5S can be a good way to develop them. Keeping track of kanban cards can be a real challenge. Some good ideas we have seen include: making someone responsible for system maintenance, making the parts container itself the “kanban” or reducing the number of cards by using a “two bin” system - only one card per part number.

Engage Suppliers

If your pull system is designed to pull from suppliers you must talk to them and understand their systems and capabilities. Suppliers can have useful input on how to make the system more effective and forcing a system on them is unlikely to be effective and will damage your business relationship.

[Link to Tim McLean's extended article about Pull Systems in Australian Manufacturing Technology Magazine](#)



Above: Kanban system for sheetmetal at Larnec Doors in Swan Hill

TXM Recommended Reading List

Reading a books can is an inexpensive way to increase your understanding of lean. Here are a few of our favourites:

Lean Thinking - Jim Womack and Dan Jones

Introduced the concepts of value stream mapping and has lots of case studies about the benefits of lean - not a “how to” book.

The Toyota Way - Jeff Liker

Focuses on 14 key elements of the Toyota Production System. “The Toyota Way Fieldbook” by Liker and Meier is a practical guide to implementation and “Toyota Culture” by Liker and Hoser explains the “DNA” of Toyota

Learning to See - John Shook

Excellent step by step guide to Value Stream Mapping. In the same series are “Making Materials Move”, “Creating Continuous Flow”, “Creating Level Pull” and “Seeing the Whole”.

Getting the Right Things Done - Pascal Dennis

Explains the Toyota “A3” one page plan and the “Hoshin Kanri” system of strategy deployment. Annoying “corporate novel” format but excellent content. “Managing to Learn” by John Shook focuses more on the A3 plan and less on strategy.

Lean Product and Process Development - Allen C. Ward

Best book I have seen on the Toyota Product Development. Published posthumously with the assistance of John Shook.

The Productivity Press “For the Operator Series”

A series of simple guides on a wide range of lean “tools” including 5S, TPM, standard work, kanban etc.

Lean Enterprise a Hot Topic at a Major Pharmaceutical Conference

Operational Excellence was a key subject stream at the recent International Society of Pharmaceutical Engineers (ISPE) Conference in Sydney last month. Lean manufacturing is being embraced by leading pharmaceutical companies across the region. Many excellent lean case studies were presented at the conference.

Companies like Astra Zeneca, GlaxoSmithKline (GSK) and Hospira (formally part of Mayne Health) are embracing many of the lean concepts.

GSK's Operational Excellence Expert, Ivy Leung, spoke enthusiastically about her company's achievements. Her key points included the importance of getting people together,

using a value stream map to identify the areas of concern and using simple visual controls to streamline laboratory areas.

Value stream maps are also used extensively to reduce cycle times at AstraZeneca, according to Paul Ives. A reduction of 60% has been achieved for some of the tablet packaging lines. This lead time improvement has led to a reduction in inventory. Backing up these improvements are the Process Execution Teams, pulling people together into multi-functional teams with a common set of goals, to streamline the daily problem solving. Each team has end-to-end visibility of their product process.

Justin Daly, Hospira Operations Manager, talked about how Lean tools were a big part in helping the company site in Melbourne after its recent acquisition. Justin believes that the future of pharmaceutical manufacturing in Australia lies in the ability to operate with low inventory levels and to be highly flexibility, while still being innovative and self-reliant. Adding value to the product, by reducing waste to the customers was also highlighted by Justin as an opportunity for lean companies. By increasing their flexibility and offering the customer improving dosing options, this allows hospitals to order and use only what is required for the treatment of each patient.

There are many opportunities and challenges ahead for Australian pharmaceutical manufacturers. Past reliance on government support needs to change. Improved university training has a key role, according to Graham Garside from I-Nova, to ensure they provide job ready people, to help the manufacturing compete in the global market.

Ian Finlay, from Sigma, talked about the need for new thinking and a need to study the value added components of the manufacturing process, as well as extend the lean thinking to the entire supply chain.

The use of the Lean approach is providing results for major Australian pharmaceutical and medical device companies. It's a long way from making Toyota Corollas to making drugs, but the industry is clearly getting significant benefits from the unique approach to manufacturing devised by Toyota.

Michelle Brown



Above: Rigid mandated hygiene and product control procedures provide unique challenges for lean in the pharmaceuticals and medical device industries.

TXM News

TXM Enters New Markets

September saw TXM extend its wings beyond our home base in Victoria, with major new clients in New South Wales, Singapore and China. If you are based in these markets and want to get in touch, contact us on info@txm.com.au

TXM Submission on Manufacturing

As part of our commitment to local manufacturing. TXM made a submission to the Victorian Government Enquiry on Manufacturing. We hope to be making a submission in person later in the year. [Read our submission](#)

TXM Support Establishment of Sheetmetal Industry Network

TXM is working closely with Advanced Manufacturing Australia to establish a network for Precision Sheetmetal Manufacturers. We have worked closely with this industry over the past two years and recognize its importance as a key supplier to high technology and transport equipment manufacturers. The aim of the network is to increase the profile of this important industry, to promote networking and collaboration within the industry and to increase industry capabilities and competitiveness.

Feel free to forward this to your friends and colleagues and let us know their email address and we will add them to the distribution list for the next issue. Contact us at info@txm.com.au