Now is the time to lean IT!

Andrew Rumney, solutions director and co-founder of eBECs, challenges that lean IT should join the commonly used tools for continuous improvement.

Waste. Look around you and you will see it in your own home; things you bought but have not used, things you have bought more than one of, things you move from one place to another for no useful reason. In this scenario you are the both the customer and the provider and mostly you are making a poor job of meeting "own customer value".

Multiply this, even in a low complex manufacturing plant or distribution organisation, and it's no wonder lean has got such traction for meeting customer value and waste reduction initiatives. It is commonly accepted that organisations can meet their current customer needs with around 30% fewer resources – that's all resources from space to inventory. Just imagine what you could do with that 30%! It is also accepted that traditional ERP can be a very wasteful engine.

eBECS have long been advocates of lean and with the above in mind set about creating a solution within the Microsoft AX Dynamics ERP product that help organisations deliver customer value and reduce waste – after all, although I have labelled ERP as wasteful, it does run things. It takes sales orders, it creates production orders, it orders inventory – it just does it in a wasteful push way where we need a lean pull and flow way.

When Wika Inc, a US based industrial instrument producer, set out on its lean journey it recognised that the legacy ERP system was not helping them and indeed was working against them. "We realised that in order to move our operations to the next level, we needed to make some fundamental changes. That meant moving from a batch-oriented supply-chain and production process to a system based solely on customer demand," says Michael Gerster President.

Supporting this desire is what our product design has been all about and in creating the solution we focused on the five key steps from Womack and Jones: Specify Value from the perspective of the customer, identify the value stream, create flow, pull, strive for perfection. For ERP this has meant adhering to the following principles:

- **Every transaction that does not touch the customer (and it some cases the vendor) is most likely waste so examine it!**
- **Look to use visual aspects where possible e.g. don't let MRP say you need to buy something let the water spider (warehouse person) say the bin is empty, after all he can see the bin is empty so we really know we need to buy something.**
- **Strive not to run MRP based on forecast for execution but use it to set the capability of your value stream.**
- **In implementation, while the goals are set by management look to the actual people who touch the system and ensure they are included in the analysis process – Kaizen events are a great way of doing this.**
- **Don't think that you can implement once and never change. Leaning you IT will take the same continuous, step by step process as other aspects of your lean journey– try things and discard if they don't deliver – look for changes delivered in hours not days, weeks or months!**

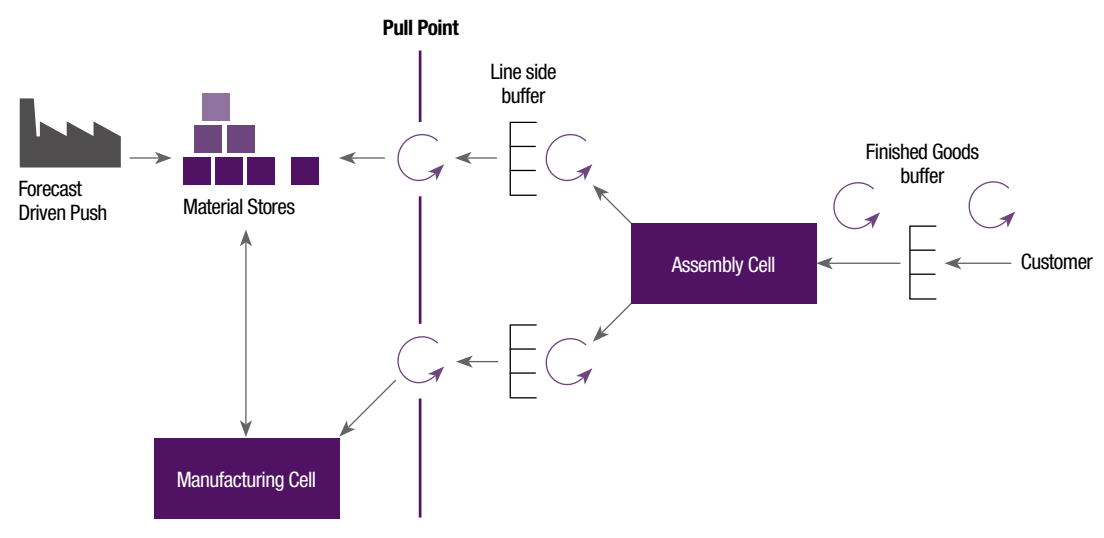
Over the years these principles have been enhanced with the help of both the academic world and customer requirements - take the "black" concept. Here we can issue inventory into a black hole which means we meet lean accounting requirements but the inventory is gone from the system – we don't have to track it anymore in a detailed way (as demanded by traditional ERP) we can simply use "triggers" to pull through the value stream – these may even be manual and not on the system at all!

In moving to using lean solutions there are many challenges an organisation will face, the first one is that very few organisations are totally Lean. Furthermore you can't become lean overnight it's a journey and while you are on this journey you will need to use a "mix mode" phase – i.e. some processes lean and others traditional. This "mix mode" phase is a necessity while you undergo transformation and strive for the ever elusive perfect future state. There are many things to do from education (employees, management, vendors and indeed customer) to factory layout in the organisation of your value

streams and your ERP product must be flexible enough to absorb the changes you are making and provide continuity.

Wika Inc faced exactly this issue. They needed to accommodate their "pull points", the boundaries between lean processes and processes still relying on push. There will not only be one point – there will be many and they vary based on the value stream, product, customer and vendor etc. Taking a simple vendor pull for example; we may drive one item with a vendor by traditional MRP but another item for the same vendor may be under a pull Lean approach. We could even have the same item from the same vendor being used in two or more places, some under lean pull and the others under traditional MRP.

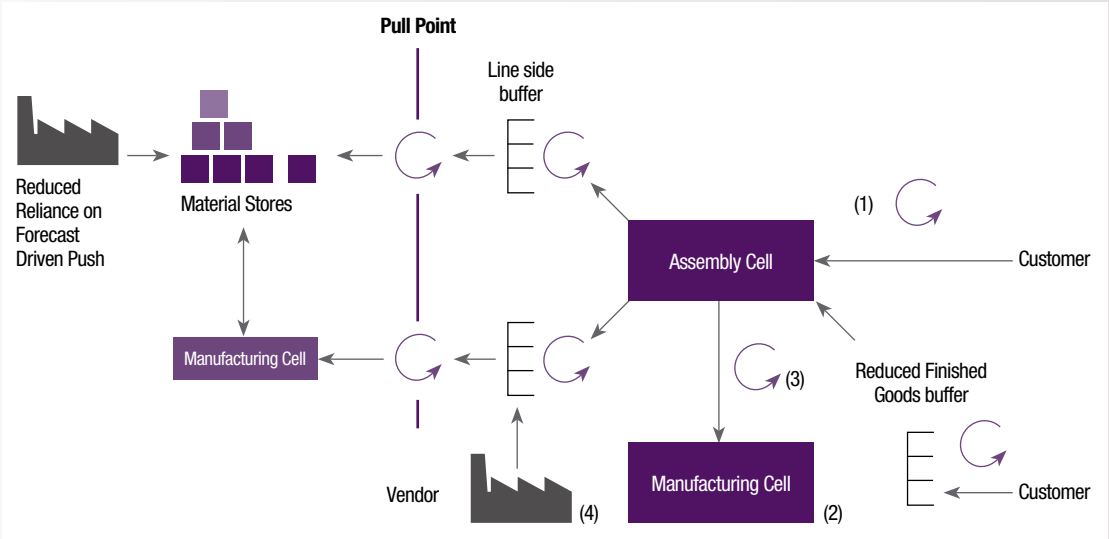
While on your lean journey you will need an agile "mix mode" to enable the combination of approaches in any way you require, and to take account of the fact that, as you progress towards your future state, your "pull points" will move.
Here is an overview on where Wika Inc started and was known a maturity stage 1:-



The customer pulled from very small Kanban buffers which were immediately replenished by the assembly cell pulling material from line side Kanban buffers. This line side Kanban buffers pulled across the "pull point" from general material stores or, for certain products, directly from a manufacturing cell.

Material based on Forecast was pushed into the material stores although there were a small number of items that were pulled into the material stores via Kanban triggers. This is an example of a multi pull point situation.

If we move time on to a later maturity model we can see the changes that have occurred:-



1 Wika now have a clear distinction between buffer stock (for real standard product) and make-to-order (MTO). This process allows levelling to take place – i.e. when MTO is low buffer replenishment can be used to level the cell activity.

2 Supporting manufacturing cells are now with each value stream responding directly pulls from the final assembly cell.

3 The pace maker cell (assembly) is controlled by drumbeat consumption and this ensures the supporting manufacturing can meet their takt.

4 Vendors are more and more delivering to line based on simple Kanban triggers

"WIKA USA is at a stage where we are continually refining our manufacturing and business processes. Lean Enterprise for Microsoft Dynamics AX helps us drive continuous improvement to reduce costs and increase customer satisfaction," says Gerster. The benefits have been enormous with reduced lead times from six weeks to as little as five days and inventory cycles through 44 times each year.

"Our system lets us accelerate and extend these efficiencies, not only for our own operations, but throughout the supply chain in collaboration with our suppliers and customers," adds Gerster. There is still a lot further for Wika Inc go and the next steps are

likely to provide even greater challenges – but it's not a bad start I think you will agree.

If we look to other industries like distribution the story is the same and why should it not be as customer value and waste elimination are generic terms across the board. JJ Fast Food, a supplier to Fast Food outlets in the UK, have also realised these types of gains by applying exactly the same principles. JJ have removed £1m from finished goods inventory but at the same time increasing the number of deliveries made by over 20%. Significant benefits you will agree but lean has been employed with the call centre using technology with flexibility to take more orders, with each order having an additional line, with no increase in call centre staff.

Mushtaque Ahmed, senior business operations manager, says: "Now that our phones are routed automatically to the right telesales agent, they are presented with exactly the information they need and more importantly what the customer needs. We save 20 hours of customer waiting time every day, and twenty hours of agents waiting time, simply in the process of managing calls. This equates to a saving of £40,000 a year. The ability to take more orders in the same amount of time is vital in our industry"

Lean means many things to many people but ultimately it is about looking at things differently, applying things in a more simple way but always with the customer's value in mind.

Microsoft purchased the lean eBECS solution in 2007, recognising the value it could give and have subsequently incorporated it into the standard Dynamics AX solution released in early 2009. eBECS have not finished their work however and we continue to offer enhancements and other facilities to assist organisations in achieving their goals. One way this has materialised is via the establishment of the Lean Centre of Excellence (*www.leancentreofexcellence.com*), a collaborative facility for organisations looking to utilise the lean capabilities within Microsoft Dynamics.

Debate has raged over the combination of ERP and lean. Can they work together, do they do different things, does one counter-act the other? This will continue to be the case until people throw away the concept and history behind ERP and look seriously at eBECS type solutions – tame the beast and make it do the things you need, where you need it and in the way you need it.

Finally I leave you with this thought, if you were offered a way to trigger your suppliers to deliver exactly what you needed, when you needed it and at the same time removed all the administration waste, and enabled/enhanced a close true working partnership - would you reject it because it was labelled ERP or would you embrace it as one of the Lean tools for your journey?

Editor's Comment

It is certainly true that IT is now necessary to support lean process improvement especially for material procurement and inventory control. For optimum impact though it must be set up by experienced lean experts to secure evolving solutions based on customer value and continuous reduction of waste.

Furthermore once the decision is taken to use a lean IT solution, it is important not to make the system "accountable" for improving customer value and reducing costs. It is the people that make the "living improvement system.