

Clear view of the waste-line

There is little doubt that many businesses carry an unnecessary burden of waste. In today's ultra-harsh economic environment, lean can eliminate this waste, making all the difference between being a success and not 'being' at all, as Brian Wall reports

Driving home the principles of lean is now widely recognised as a business philosophy that all organisations should embrace. Yet many still fail to implement the practices and processes that deliver lean success – or have deluded themselves into thinking the finishing line is at hand. To be truly 'lean enabled', a company needs to be agile at all levels, in people as well as processes, in culture as well as strategy. Lean is a systematic approach to identifying and eliminating waste through continuous improvement, flowing the product according to the 'pull' of the customer.

Jeremy Cronshaw, principal consultant at IFS, a provider of business applications embracing distribution and manufacturing, is a committed advocate of this approach. "Lean benefits an organisation's people by providing focus and transparency to objectives, from the top down," says Cronshaw. And it's vital to realise that the journey is one of continual refinement. "Lean is not a system or application that is installed and deployed," he adds. "Change will happen, and companies need to accept and embrace it to stay competitive."

Cronshaw warns that the only thing more dangerous than believing that, one day, you will have a lean company is believing you already do. In the wake of the festive season, he points out that there is one exception to this rule: "But a global supply chain that delivers products to billions customers in one night by the unorthodox medium of flying sleigh can hardly count."

By contrast, one company with its lean feet firmly on the ground is TBM, which has taught and implemented time-based lean principles for almost 15 years. Its heritage is rooted in the world-renowned Toyota Production System (TPS), absorbed through close working relationships with

TPS pioneers. TBM's focus is on helping manufacturers to achieve substantial efficiencies and performance improvement – on the shopfloor, in internal business processes and throughout the value chain.

"Our approach is to walk the floor, analysing every step of the factory process, from the receipt of raw materials right through to production of the finished goods, because the vast majority of this is time wasted," says Richard Holland of TBM UK. "By enabling manufacturers to recognise this and embrace change, they can transform their businesses into engines for sustained growth, without downsizing."

And time really is of the essence. In fact, wasted time is the biggest obstacle to achieving and maintaining competitive advantage, he states.

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Richard Holland, TBM UK



"Every manufacturing operation is made up of value-added steps and non value-added steps, but the vast majority belong to the latter – as much as 99%.. That's not easy for organisations that have been carrying out the same process for the past 20 years to accept. However, once they see the inefficiencies for themselves – and come to terms with how wasteful these are – they start to understand what lean can do for them.

"It's all about 'seeing' and studying time, recognising the many bottlenecks within the process where people are just waiting and idle. We then design a 'future state' that describes where a manufacturer wants to get to, within the bounds of what we believe will help to grow the business, and draw up the actions needed to make that happen. For example, the practice of batching items, which is often regarded as faster and more efficient, actually increases lead times, forcing people to wait. So a one-piece flow system is vital. As soon as each item is ready, it must be processed, which means a whole new way of thinking when it comes to machine changeover times and other fundamental aspects of an operation."

Nor is lean enough of itself. Culture change, argues Holland, is equally critical to achieving and sustaining dramatic performance improvement. Conversely, it's the number one reason many lean initiatives fail to take hold – or lose momentum. "We work with manufacturers to overcome the obstacles to change, so they can transform the way they work."

Automotive supplier Piolax Manufacturing UK is one company committed to extending its reach to the limit when it comes to performance improve-

ments. A producer of injection-moulded components and assemblies for the automotive industry, supplying a number of the major manufacturers' assembly plants across Europe, it has been driving through improvements at its Altham Business Park site in Accrington, raising productivity by almost three-quarters.

Although part of a Japanese group, the operation is a standalone business unit and has to keep its added-value edge against the parent company's other manufacturing sites in Thailand, Mexico and Korea, as well as outside global competitors.

"We have been under growing pressure to cut costs, while retaining high quality levels," says Tony Dewhurst, Piolax UK's operations director. "Internally-driven improvements become increasingly harder to deliver and we realised a different approach was needed."

The company called on the help of the Manufacturing Advisory Service (MAS). A one-day diagnostic visit by MAS North West's lead practitioner Mark Stone uncovered key areas where there were high levels of 'wasted' effort that could be removed to bring potentially big productivity gains.

Stone worked with the company on lean processing techniques in a pilot cell of the assembly area. This led to a complete redesign of the cell layout, creating space for parts storage and improving product flow. After this proved successful – with productivity up by more than 80% in that cell – the project was rolled out across the assembly area.

If the initial concept was an eye opener to the company regarding the benefits of lean, then the subsequent transformation of the whole assem-

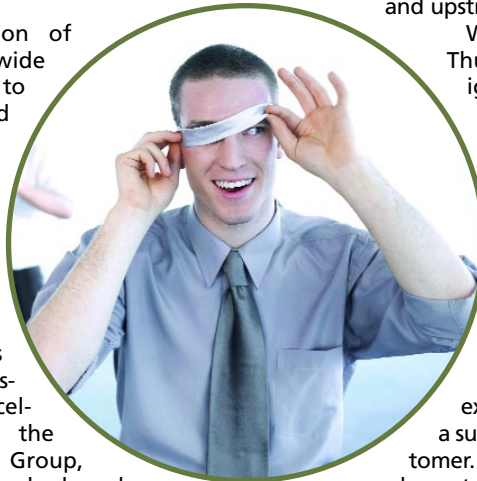


bly operation served to reinforce that. "Overall, the assembly area has seen a productivity increase of 74%, while floor space utilisation has improved by 45%," reports Dewhurst.

As a result, not only has the operation seen a significant reduction in costs, it has also gained capacity and space. "We are now in a position, both in terms of cost and resources, to be able to compete within the group and bring in very lucrative new work," he adds.

Successful implementation of lean is an organisation-wide endeavour, requiring everyone to play a role in identifying and eliminating waste from everyday work. The payback more than justifies the collective effort. "Some examples of lean improvements can include faster process cycle times, reduced work in process, lower scrap and rework, and improved process flow," points out Scott McAllister, a senior performance excellence consultant at the Breakthrough Management Group, which uses performance tools based around lean, Six Sigma and innovation.

"Lean and Six Sigma complement each other and can work in concert," he adds. "Where lean seeks to eliminate waste and non-value added activity, Six Sigma aims to lessen variation by reducing defects. Rather than scaling down the workforce, the aim is to improve process flow, enabling existing workers to provide more value to customers." And success is as much about where you apply lean as how you implement its principles.



"Manufacturing operations can only claim to be truly lean if they incorporate lean principles in all aspects of their business," says Steve Thurlow, manufacturing sector head at Huthwaite International, a behaviour change consultancy. "Yet, typically, lean is only applied on the shopfloor, in areas such as reducing work in progress and inventory, and eliminating waste. If lean is applied anywhere else at all, it's usually limited to areas such as R&D and upstream to the supply chain."

While this is valuable, argues Thurlow, it should not be ignored that lean is equally applicable to such downstream operations as selling and the sales process. "Consider that one of the primary objectives of lean is to eliminate unnecessary steps in a process. Six Sigma goes a stage farther in seeking to achieve minimal defects." In the selling environment, a 'defect' is, for example, a wasted sales call or a superfluous meeting with a customer. Lean selling is about reducing such waste. As Thurlow stresses: "Why go to the trouble and effort of implementing lean in core activities, if your sales team is leaking waste at every turn?"

Ultimately, lean is all about getting the right things, to the right place, at the right time, in the right quantity, while minimising waste, and being flexible and open to change. A simple enough concept? Yes. The challenge, of course, is putting that into practice – and never losing sight of those goals for a single moment. ■

Window on the world of lean

Arden Windows is constantly looking to improve its quality, cost to the customer, processes and service. The top team at the Coventry-based company was convinced that more involvement from its employees at all levels was key to the process. So the business singled out Ukfirst - the industry forum for delivery of lean to manufacturers of furniture, timber and affiliated products - to help it achieve those objectives.

Ukfirst began by exposing the management team to lean thinking through the creation of a long-term improvement plan. By value stream mapping the business, Arden Windows was able to identify process bottlenecks and opportunities for making improvements were uncovered.

As a result, the company now employs lean manufacturing techniques to solve some of these issues at shopfloor level.

When Ukfirst engineers met the management team and discussed their expectations, Arden Windows was hoping to progress methods and processes, improve workflow in their mill area and undertake training in best manufacturing practice.

Ukfirst began the programme by taking the team through a simulation that is used to teach

fundamental lean concepts, such as layout, cells, quality, 5S and kanban. Focusing on the administration and sales order process initially, the team identified 40 areas of potential improvement that then guided long-term strategy.

The resulting work gave a 57% improvement in lead times from sales enquiry to works order, saving £19,000 and freeing up capacity for an additional £150,000 worth of turnover.

The manufacturing process was next to be tackled and a team assembled, representing a cross-section of the mill process department. It produced its own value stream map that quickly identified a bottleneck at the sash and frame assembly area.

Layout changes were undertaken, which improved the flow through the mill and radically reduced the travel distances for parts. By knocking down a wall, and moving a door line and machinery, the team will be achieving financial savings of £192,000 and significantly improved capacity.

