

# Get rid of inventory – just like Toyota

By John Haylock



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**G**et rid of inventory. It hides your problems and inefficiencies. And if you don't confront your problems, you can't improve your processes.

This message of inventory reduction leading to continuous improvement comes from the company rated the best manufacturer in the world – Toyota. Toyota is now the largest vehicle manufacturer in the world and by far the most profitable. Its manufacturing systems are brilliantly explained in Jeffrey Liker's *The Toyota Way* (2004).

Mr Liker outlines that inventory reduction is vital to achieve what Toyota calls one-piece flow. This is where each person in a business process is only working on one piece at a time – and only has that one piece available to work on. As they finish their work on that piece, they deliver it to the next person and the next piece arrives from the person before them in the production chain. One-piece flow is a quick, flexible production system that encourages efficiency. In contrast, traditional batch production involves people working on multiple pieces or batches of work at once before moving them onto the next person. Batch production is cumbersome, slow and inefficient – but it is incredibly widespread and hard to eliminate. The idea that there are benefits of economies of scale from batch processing is deeply ingrained into our way of thinking.

The best way I know to quickly see the difference between the two production methods is to have a look at a video on the Lean Six Sigma Academy's website<sup>1</sup>.

To achieve one-piece flow a smooth and even flow of work is required. Toyota even

has a word – heijunka – for this concept of smooth, even flow. In Toyota factories, each car moves from one step to the next just in time for the person or team at the next step to start working on the car. One-piece flow minimises inventory (or work in progress). There are no cars sitting around the factory waiting to be worked on.

For one-piece flow to work, Toyota has to continually focus on eliminating problems. That's because problems at any point will cause the even flow to be disrupted, leading to partially assembled cars sitting idle. If problems are not addressed, one-piece flow factories very quickly look like traditional batch production facilities.

But rather than waiting for problems to develop so they can be fixed, Toyota does something absolutely fascinating. They approach this issue the other way around. Toyota reduces inventory so that problems are revealed which can then be eliminated.

That's right. Toyota forces problems to occur so they can then be fixed. As Mr Liker says (p99): "If you don't confront your problems, you can't improve your processes. One-piece flow and continuous improvement go hand in hand."

Contrast this focus on inventory reduction and personal problem resolution with a traditional batch manufacturer where buffers of inventory build up at each stage of the manufacturing process – in case something goes wrong. This inventory hides problems and allows those problems to continue without being addressed.

This is exactly what occurs in accountancy firms. High levels of inventory – otherwise known as work in progress – hide the inefficiencies that are widespread and substantial in most firms. Buffers of

work ensure everyone can stay busy – but the underpinning problems continue to occur.

Lowering work in progress by working on fewer jobs at once will reveal those problems so that they can then be fixed. In accountancy firms the best way to lower your work in progress is to set a low threshold of the numbers of jobs that anyone can simultaneously work on.

There are accountancy firms in New Zealand that have targets of no more than three to four jobs open per person<sup>2</sup>. Their inventory (or work in progress) will be much lower as a result and their job turnaround will be much better. Working on such small quantities of jobs will also reveal problems with client information, internal training or workflow systems. Their low work in progress will force these firms to address those problems and as a result they will be much more efficient than other traditionally managed firms – with 10 to 15 jobs open per person, slow turnaround and the same problems occurring on job after job, year after year. Lowering the number of jobs open and reducing work in progress will help these firms provide better service to clients as well as being more efficient and productive. Just like Toyota. 📌

## Footnotes

- 1 <http://Issacademy.com/2008/02/18/one-piece-flow-versus-mass-production/>
- 2 While three to four jobs open is a big improvement, true one-piece flow would involve only one job open at a time. It is worthwhile thinking about what you would have to do to achieve that goal.

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