

ToC, Lean (and Six Sigma)

How interesting! It's almost a chicken and egg question. There are so many similarities between the "Theory of Constraints" and many of the techniques that now appear in Lean thinking, and to some extent in Six Sigma. And how much of Lean/Theory of Constraints/Six Sigma can actually trace back to the 1950's and 60's thinking from Toyota?

In writing "Breaking the Bottleneck! 10 profitable ways to make the 'Theory of Constraints' work in Services" I was wondering whether what was predominantly a manufacturing application could also be useful in the services environment. And whilst Lean thinking also has its origins in manufacturing (predominantly the automotive industry), it too is now being applied in the service arena.

So when you read "The Goal", "It's Not Luck" and "Necessary, But Not Sufficient" you will read about concepts that now appear in the Lean literature. Whilst not exhaustive, a few key concepts seem to recur in both ToC and Lean:

- Focussing on bottlenecks
- Focussing on throughput
- Thinking in terms of flow
- Looking for waste (muda)
- Right-sizing machinery
- Reducing batch size (ideally to one)
- Having some form of pull mechanism, driven by customer demand
- The value in eliminating inventory
- Not rewarding fire-fighting
- The focus on right first time, and elimination of errors

- Removing the need for quality checking
- Removing the need for expediting
- The challenges of adopting locally
- The irrelevance of most management information
- Making the process visible
- The role senior management needs to play

There's even a corollary between the Toyota *sensei* (consultant/expert) and the guru consultant Jonah who supports Alex Rogo's journey of learning in "The Goal".

Now Six Sigma is – if you read the books – ideally suited when you don't know what the root cause is. And its focus on basic statistics to allow focus and action to keep the flow improving are very similar concepts to both Lean and ToC. ToC very much focuses on the root cause; which bottleneck is really your bottleneck (and it may not be obvious). And ToC's awareness that the bottleneck may reside outside your business picks up on the extended value stream mapping of Lean thinking.

Now perhaps an argument about the chicken and the eggs is pointless. With my Lean thinking hat on I want to remove duplication and waste, and work together without inventing muda along the way. So you have Lean practitioners, ToC experts, Six-Sigma Black Belts and other quality focused professionals all aiming at the same goal. To quote Womack and Jones:

"...we've become ever more certain that all of the expert animals in the lean zoo should live in the same cage. That's because all of these experts – once differing vocabularies and professional rivalries are stripped away – are in pursuit of the same goal: the perfect process."¹

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1. Womak, J.P. and Jones, D.T., "Lean Thinking" p322