Ross Maynard

About the author
page 17

Go with the flow: secrets of business improvement

Synopsis

Lean is a term bandied about freely, but with little understanding of the key philosophies that really make it work. Instead, most companies are just doing lean 'stuff': kaizen in some areas; 5S to make the place look tidier; quick set-ups at a few crucial points; and a few current state value stream maps – where did we put them again?

You have to start somewhere, but to make step changes in performance, companies need to do more than just use lean tools. They have to become a truly lean organisation and that means adopting a lean philosophy. This article looks at one of the key philosophies of lean, that of flow, why it works and what it means for the organisation. It explores the assertion that: *profitability is related to the rate of flow through the value stream*, and that by improving flow we improve profitability.

Next-Generation 737s line up nose-to-tail on a moving production line, speeding along at a rate of two inches a minute through the final assembly process. The moving line, one of several lean manufacturing tactics used at the Renton, Washington, facility, has enhanced quality and reduced flow time and inventory levels.

Image courtesy of Boeing

> There may be other, non-revenue earning, value streams that, nonetheless, create value for the customer or potential customer

I love those books and programmes you can buy nowadays: *Improve your life in 30 days; Ten secrets of sales success; Seven steps to business mastery*. I do not believe in quick fixes, but I do believe in one of the most fundamental, but seldom spoken, truths of modern business: *profitability is related to the rate of flow through the value stream*.

Once senior management accepts this truth, the path to business improvement becomes clear, and the whole management team plays a vital role in developing performance and financial data, related to flow, that allows the organisation truly to manage its costs and improve profit.

But I am getting ahead of myself. Let me explain a few terms first.

Value stream

The value stream is how we create value for the customer. As defined by *Lean Lexicon*, published by the Lean Enterprise Institute, the value stream is: *all of the actions, both value creating and non-value creating, required to bring a product from concept to launch, and from order to cash collection. These include actions to process information from the customer and actions to transform the product on its way to the customer*.

Commercial organisations may have many revenue-generating value streams. These comprise all the tasks, activities and processes, from order entry to delivery to the customer, to payment collection, for a particular family of products or services that share similar flow. There may be other, non-revenue earning, value streams that, nonetheless, create value for the customer or potential customer. These include new product development, new market and customer development, and so on.

Thus, the value stream is where value is created for the customer, and it comprises flows of information, materials, processes and cash, which are combined in the value stream to deliver products and services to the customer. By identifying and mapping these flows, we can see how value is created, and we can also see those obstacles to flow that generate waste or destroy value. By measuring and managing the flow, we can make improvements. As we will see later, by measuring and managing the flow, we can also manage the cost. By improving the flow, we reduce cost and improve profitability.

The value stream is not a collection of organisational departments brought together as some sort of business unit or profit centre. It is much more than that. The value stream manager has profit and loss responsibility for his or her value stream, as well as responsibility for the assets in that value stream, and is responsible for bringing everyone in the value stream together to work to improve the flow through the value stream. Departmental silos often impede the flow of information, materials or processes, and thus destroy value. As far as possible, we must remove artificial boundaries and work together as a value stream team to improve all the flows that combine together to create customer value.

This, in turn, means that traditional measures of the efficiency of particular points in a process are not helpful. The optimisation of particular steps or activities does not necessarily improve the flow through the whole value stream, and can hinder it if improvements in one area have negative consequences somewhere else in the value stream. Instead, we need to develop new measures of the performance of the whole value stream. We measure quality, flow time, customer satisfaction, stock, on-time delivery and so on, for the entire value stream from order entry to delivery in order to allow us to work together to measure, manage and improve the whole process.

Flow

Once you have defined your value streams, you can map the flows of information, materials, processes and cash through the value streams and how they combine to create customer value. Any obstacle to flow is defined as waste, which might include: stockholding between processing steps; excessive movement of materials and information; over-processing beyond that needed to create customer value; overproduction; scrap; and delays between steps. The only way to speed up your organisation's responsiveness to customer demand is to improve the flow through the value stream. By improving the flow, you will be able to deliver to customers more quickly, you will improve quality and customer satisfaction, and you will reduce stock and improve cash flow.

You improve flow by mapping the whole value stream and working to eliminate the waste – that is, non-value adding steps. Measuring and managing the flow through the whole value stream allows you to improve the flow, and by improving the flow, you reduce cost and improve profitability – see Figure 1.

How does improving flow reduce cost?

The way to improve flow through the value stream and thus improve customer satisfaction by being able to respond more quickly and with greater flexibility is to reduce the waste in the value stream. As we have seen, waste is those obstacles to flow that do not add value for the customer. Thus, disjointed processing steps, hold-ups and delays in the process, unnecessary processing, poorly structured processing creating scrap and rework, and so on are all waste and impede the flow. We measure the flow for the entire value stream and at each step to identify the issues, and, by working with all the employees in the value stream to remove the barriers to flow, we will reduce the costs of: excess stock between processing steps; unnecessary steps; and scrap and rework; and we will reduce requirements for overtime and temporary staff. All of these things will reduce the cost of the value stream.

How does improving flow improve profitability?

Improving the flow through the whole value stream helps eliminate those unnecessary costs that do not contribute to customer value. But these are relatively minor short-term cost improvements. Big savings remain out of reach. You cannot reduce the number of employees – the quickest way to kill your improvement activities is to sack the very people who have worked to make the improvements! – and you cannot reduce overheads. The biggest benefit of improving flow is the improvement you create in the *capacity* of the value stream.

Improving the flow through the value stream, by eliminating waste, will greatly increase the capacity of your value stream. In short, you will be able to get more out of your value streams with the same people – or, put another way, meet current levels of demand with fewer people.

The only way you can really profit from this increased capacity is to grow. You can do a great deal more profitable work with the same people and overheads, and the only way to realise this benefit is to grow sales, develop new products, and reach new customers and new markets.

Let us assume that, before improving the flow through your value stream, you can meet a customer order within four weeks, and you produce 4,000 items in that four weeks. By improving flow, you reduce your flow time so that you can now produce the same 4,000 items in two weeks. That gives you two weeks of free capacity that you can now profitably sell. Apart from any additional material cost, this extra capacity is virtually *pure profit*. This means that you can double the profitability of the value stream by doubling the rate of flow. In fact, you more than double the profitability, as overheads remain largely unchanged.

Conclusion

The rate of flow through a value stream is a crucial indicator of the performance and profitability of that value stream. Focusing on the flow, and aligning management accounting data with flow, will greatly help your efforts to improve the business.

This brings us back to my opening statement on one of the fundamental truths of modern business: *profitability is related to the rate of flow through the value stream*.

To this we can now add other fundamental truths:

- By measuring and managing the flow through the whole value stream, we manage the cost
- By improving the flow, we reduce cost and increase capacity
- By increasing the capacity of the value stream, we increase its profitability

Of course, this depends on being able to develop the new products, build the new markets and generate the new customers that will fill the capacity that your value stream improvements create. That means that you need to start planning how to fill the extra capacity created as soon as you start your improvement activities.

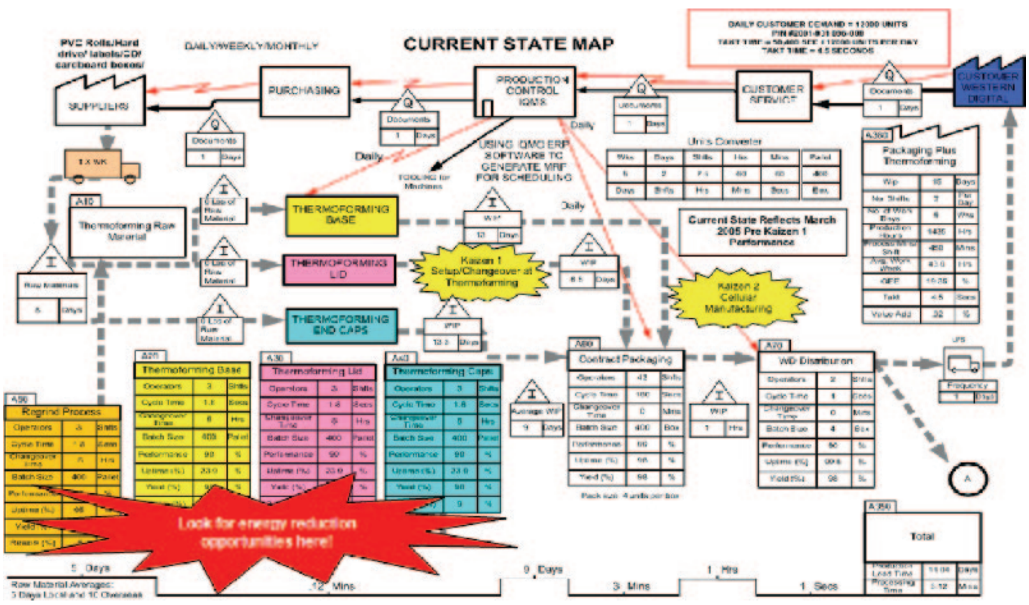
The concept that profitability is related to the rate of flow through the value stream is a radical one that provides management accountants with an ideal opportunity to play a vital role in business improvement and growth. It is a philosophy that is miles away from the traditional role of management accountants as keepers of the standard cost and generators of variance reports. In reality, standard costs and variances tell us nothing about the flow through the value stream and, therefore, provide no useful guidance for improvement and growth. We should instead be focusing our efforts on measuring, managing and improving flow.

So, if you want six steps to brilliant flow:

1. Induct senior management into the fundamental truth of modern business, that profitability is related to the rate of flow through the value stream.

2. Define and map the value streams in your organisation. Identify a value stream manager for each value stream.

3. Identify and implement performance measures that measure the flow through the *entire value stream*. As a starter set, try the following measures for size:



Example of value stream map
Figure 1

Source: Packaging Plus LLC and California Manufacturing Technology Consulting

- Sales per person – productivity
- Average value stream cost per person – productivity
- On-time delivery – customer satisfaction
- Order entry to delivery: days – flow time
- First time through or yield – quality
- Stock days: raw material, WIP, finished goods – flow
- Accounts receivable days outstanding – cash flow
- Measures of absence, staff retention, health and safety

4. Relate costs and revenues to each value stream – without apportionment of overheads – to determine value stream profitability and measure the financial impacts of improvement.

5. Work with the value stream team to improve the flow and release capacity for other profitable uses.

6. Plan ahead for the profitable use of the freed up capacity.

My aim here is to raise your curiosity. Fulfil that curiosity. Start by reading *Practical Lean Accounting, The Toyota Way Fieldbook* and *Lean Transformation* – see below. Then start work on the six steps.

Further reading

DENNIS, PASCAL, *Getting the Right Things Done: A Leader's Guide to Planning and Execution*, Lean Enterprise Institute, 2006

DENNIS, PASCAL, *Lean Production Simplified*, 2nd edition, Productivity Press, 2007

HENDERSON, BRUCE A and LARCO, JORGE L, *Lean Transformation*, Oaklea Publishing, 1999

LIKER, JEFFREY, *The Toyota Way*, McGraw Hill Professional, 2004

LIKER, JEFFREY and MEIER, DAVID, *The Toyota Way Fieldbook*, McGraw Hill Professional, 2005

MARCHWINSKI, CHET, and SHOOK, JOHN, *Lean Lexicon: A Graphical Glossary for Lean Thinkers*, Lean Enterprise Institute, 2003

MASKELL, BRIAN H and BAGGALEY, BRUCE, *Practical Lean Accounting*, Productivity Press, 2003

ROTHER, MIKE, *Learning to See: Value Stream Mapping to Add Value*, Lean Enterprise Institute, 1999

About the author

Ross Maynard is Senior Consultant (Europe) with BMA Inc, which provides lean accounting support to organisations going through lean transformation. He works with a range of clients in the UK and Europe, providing training and consultancy to support them to develop their finance systems to meet the demands of lean management. He also specialises in organisational development, and provides coaching and training to support the lean philosophy and to create a truly lean culture. He is author of *Successful Business Growth*, published by Hodder and Stoughton, as well as many articles on business improvement.

Ross Maynard may be contacted, email: rmaynard@maskell.com Web site: www.maskell.com

Interested in this topic?

Why not do some additional research into lean tools and techniques via The Knowledge Centre?

Suggested reading:

Journal article – available from the library
Interim management could solve your performance issues
Author: Bader, James
Source: *Logistics & Transport Focus*, Volume 10 Number 12 December 2008

The article explains the importance of interim management to performance issues. Reports show that supply chain costs make up almost 75% of operating budget. Supply chain management is used within corporate organisations, particularly with business improvement, demand planning, delivery channels, and cost reductions.

Webshop title – not available from the library
Managing Performance Improvement
Author: Lynne F Baxter, Alasdair M Mac
Members: £20.69; Non-members: £22.99
Product code: 42/086

Contact: The Knowledge Centre. Tel: 01536 740105. Email: books@iomnet.org.uk

Alternatively, the following IOM events and courses may be of interest:

26th February 2009
Short course:
The lean approach to service industry business

17th March 2009
Workshop:
Understanding and applying lean successfully

31st March 2009
Workshop:
Value stream mapping

Contacts:
Short courses – Judith Bentley. Tel: 01536 740105.
Email: judith.bentley@iomnet.org.uk

Workshops – Membership Services. Tel: 01536 740105.
Email: members@iomnet.org.uk