



inspiration to
implementation

Applying 'Lean thinking'
learning your way to continuous improvement

Lean

a bit of history

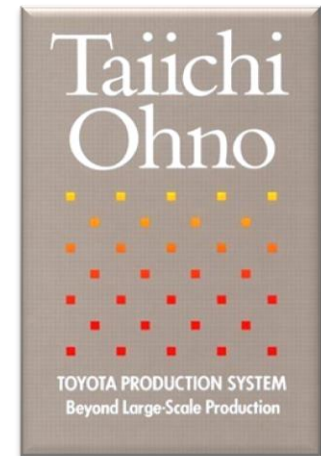
The origins of Lean lie in the ‘Toyota Production System’ (TPS). From 1948, Toyota began to search for ways to improve their manufacturing processes. In doing so, they:

- focused on ways to **reduce waste** of different types
- fostered new ways of **learning how to do things better** (including copying and improving the ideas of competitors)
- found the **role quality improvement** can play in cost reduction

During the 1970s and 1980s, Toyota was able to catch up with and surpass companies - notably those in the US - that had previously dwarfed it in size

In 1988, John Krafcik (a Toyota engineer) published an article in the Sloan management Review entitled “**The triumph of the lean production system**” which introduced the term ‘Lean’ to widespread use (and drew on the earlier work of Taiichi Ohno, widely regarded as the ‘father’ of the TPS)

Since then, the underpinning philosophy of Lean and the tools and techniques that have grown up around it have been extensively promoted



MIT Sloan
Management Review

It's our pleasure to share these insights on Lean thinking

We started learning about Lean in the 1980s...

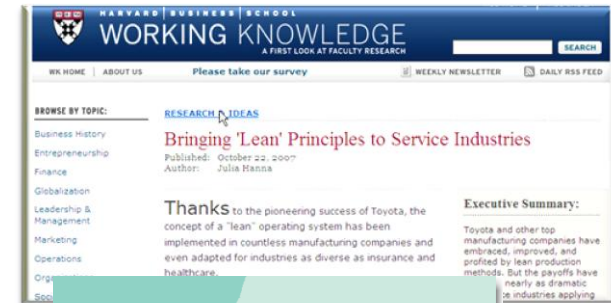
Our study of lean approaches to manufacturing started in the 1980s with research into how the **learning from Toyota** was being applied. We have since tracked the evolution of the evidence and theories underpinning Lean thinking

...have experience of it in service organisations...

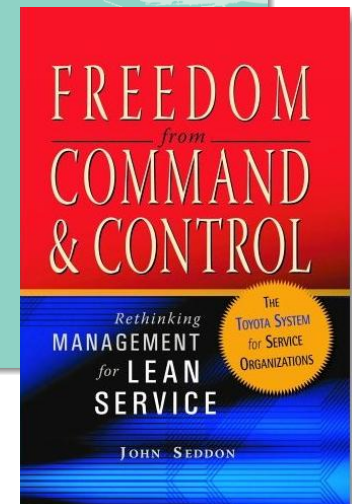
We have first-hand experience of seeing how Lean approaches have been applied in manufacturing sectors such as electronics, golf equipment and shipbuilding and in **service sectors** like publishing, software design and telecoms

...and insights on how to use it in the public sector

The use of **Lean thinking in the public sector** has grown steadily and we have developed a set of ideas on applying lean in areas such as health, education and central government (drawing on research work from the likes of John Seddon)



Office of Chief Researcher



Here are **10 steps** to
continuous improvement
through
Lean thinking

10. Absorb into the **organisation's persona**
9. Build capability by **spreading know-how**
8. Start **small** and promote **prototyping**
7. Get out of **chaos** and design in **simplicity**
6. Identify sources of **value** and **waste**
5. Recognise the types of **customer demand**
4. Stand back and understand the **system**
3. Learn how to be a **learning organisation**
2. Foster a **conductive culture**
1. Be clear on your **goals**

1. Be clear on your goals

Lean thinking can only be applied successfully where the organisation has a clear set of goals. For Toyota, the driving goal is to maximise profit through minimising the cost of delivering the products its customers want to buy. Within the public sector three inter-related goals emerge as important to pursue:

Maximise the value to your customers

Be clear on who your customers are and what would match or beat their expectations of what you can do for them

Improve the quality of all you do

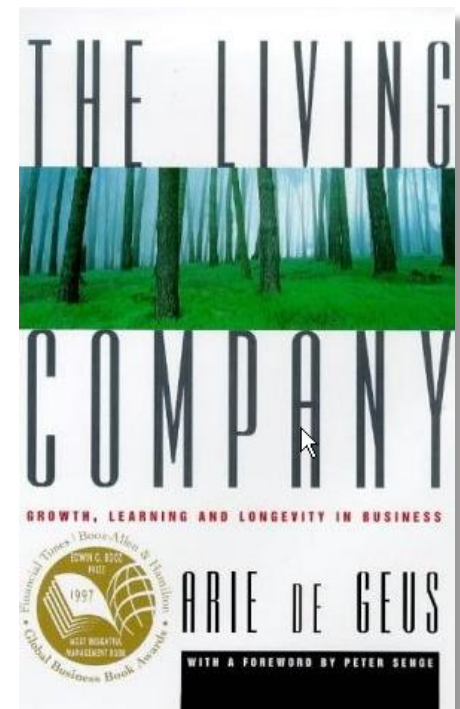
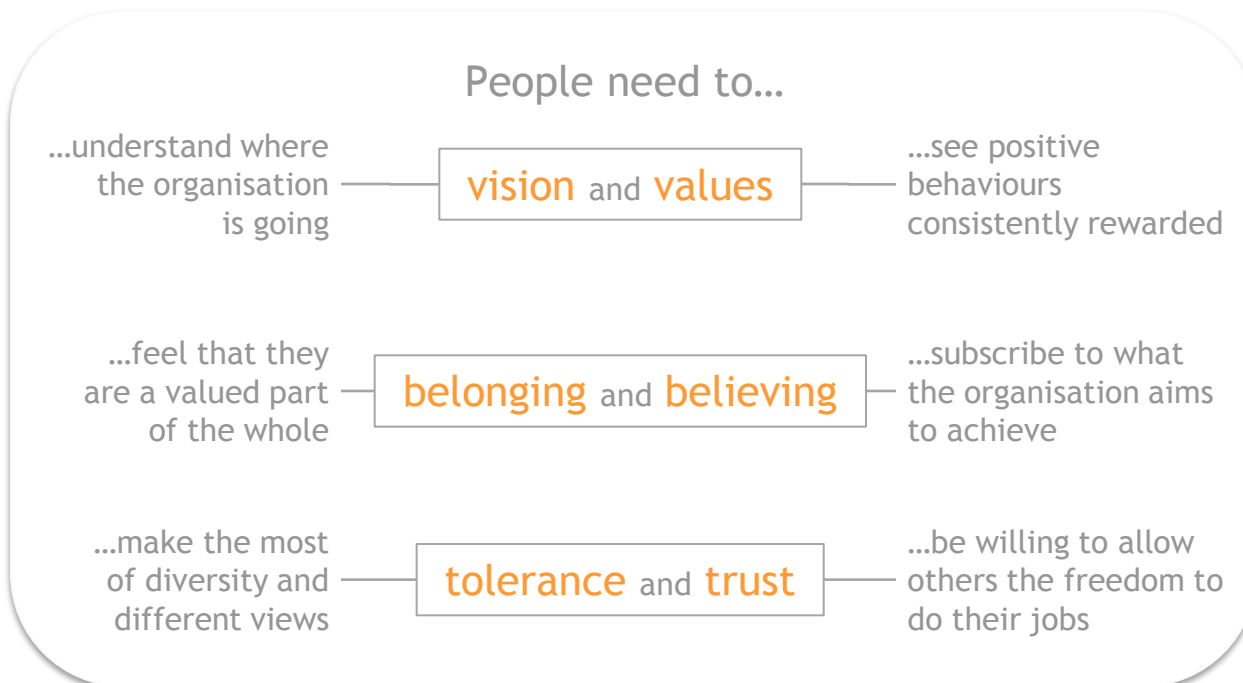
Work across the whole organisation to improve the quality of what is delivered to customers and how the organisation works together to create this

Live within your means

Be prudent in financing, prioritising resources and, wherever possible, taking a long-term view in investing in doing things better

2. Foster a conducive culture

Any organisation can apply Lean thinking and see some quick results. Significant and sustainable improvement needs particular cultural characteristics. The work of Arie de Geus (a senior executive at Shell for over 40 years) shows how organisations that are successful over the long-term are themselves like living beings in getting the best from the people that work in them.



3. Learn how to be a learning organisation

The key to continuous improvement is the ability to learn as an organisation. This requires you to have a mindset that is open to asking questions about the way things get done along with a specific set of skills (as used by high reliability industries, athletes, etc) that underpin the process by which know-how is acquired and used.

Learning skill

> observing

(and how used in sport, high reliability industries such as aviation, etc)

(measuring what they do, watching themselves, getting others to scrutinise what they do)

> reflecting

(thinking about what is working and what is not, trying to understand what is stopping them from getting it right)

> knowing how to

(drawing on the best that others are doing, listening to the advice of their coaches, building on what works well for them)

> experimenting

(trying out the new learning to see what difference it makes, adapting to find the optimum approach)

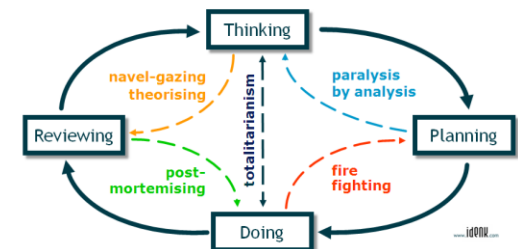
> embedding

(practicing the improved technique again and again to be able to be able to repeat it under any circumstance, however stressful).



One of the lessons from Toyota is to be positive in the face of things not working - as they say "problems are good" - since this offers the chance for learning that leads to improvement.

Avoid the Learning Cycle Short Circuits



It is also critical not to shortcut the learning cycle but to invest time in all four stages: reviewing, thinking, planning and doing.

5. Recognise the types of customer demand

Part of understanding the system requires you to recognise that there are different types of customer demand. Before deciding on any changes, it is essential to get a firm grip on who your customers are, which are the most valuable, what their expectations are and how they generate demands which your organisation tries to meet.

Who are your **most important customers**?

Who generates most return for you, who is most critical to achieving your goals (short- and long-term?)

How do your **customers measure value**?

What is important to them, what would be a real improvement in meeting their expectations?

What types of demand do they generate?

What is your known '**high frequency**' demand?

How much **variety** is there in the demand?

What is the split between '**value**' demand and '**failure**' demand?

Value demand = the sort of demand you should want, ie customers requesting you to provide products/services

Failure demand = all customer requests to address problems in the delivery of their initial order (eg modifications to orders, error reporting, duplicated contact, complaints, etc). Failure demand often accounts for 60% of the customer demand put into a system (and can be 80-90% in some organisations)

7. Get out of chaos and design in simplicity

Before you can get going on starting to identify and implement improvements, it is necessary to make sure that all parts of the system are out of chaos. It is impossible to make high quality changes to a system if parts of it are relentlessly trying to cope with delivery failures or subject to overburdening. This leaves no real capacity (in time or mental effort) for proper thinking and testing of new systems, processes or behaviours. Once out of chaos, the aim should be to develop improvements which design in simplicity and predictability to workflows.

Create capacity to learn and improve

Reallocate resources and change workflows (even as short-term measure) to remove overburden and frequent failures so as to create time to learn about the system and identify improvement opportunities

Build know-how for all situations

Look for improvements to all parts of the delivery system by making demand predictable, simplifying workflows and ensuring that everyone has the know-how to fulfil their role (including knowing when and who to ask when they don't)

Shape customer demand

Develop customer relationships to the point at which you can shape the demands they make (eg in terms of what they ask for and how they interact with you in getting this)

8. Start small and promote prototyping

If the role of managers is to stand back and understand the system, the source of ideas and effort for improvement lies with all those responsible for delivering customer demands. Lean thinking emphasises improvement led from the bottom-up. It also pays to start small, to experiment to see what works and to prototype change before rolling it out more widely.

Start small

Select a small number of teams in different parts of the system to work on generating improvement ideas. It is best to empower the natural 'innovators' within the organisation to lead these early projects

Improve from the bottom up

The aim should be to involve the whole of a team, looking for ideas drawn from practical experience of working in that part of the system. Diversity of views in what improvements might be possible should be encouraged

Promote prototyping

As ideas for improvement are brought forward, it is important to test these through prototyping (eg using simulations, pressure testing or parallel processing of a real pieces of work)

As work gets going on applying Lean thinking, you may discover some '**counter intuitive truths**' - things that you wouldn't expect.

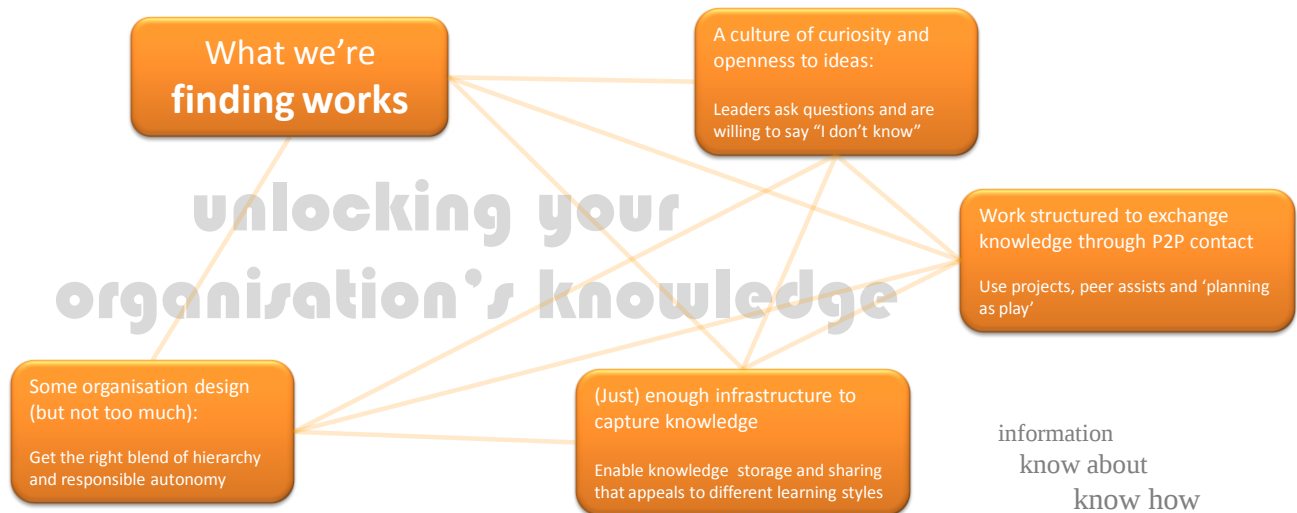
For example, trying to reduce unit costs or effort in one part of the system may lead to the overall cost of delivering the customer demand going up

9. Build capability by spreading know-how

Spreading the capability for continuous improvement across the organisation needs approaches that will unlock knowledge from one part to another, taking the learning from pilots and prototypes to all parts of the system. This typically involves a mix of behaviours, organisation design, knowledge infrastructure and knowledge exchange - all with the aim of ensuring that the whole becomes more than the sum of the parts.

It's hard to capture the knowledge we have
Working in silos means we miss opportunities
We don't want to keep reinventing the wheel

How can we make the whole more than the sum of the parts?

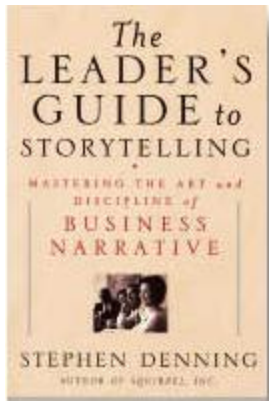


And the **theory** behind the **practice**?

- > organisation design as 3 ways to get things done (**Fairtlough**)
- > insight as diverse learning styles (**Honey & Mumford**)
- > knowledge exchange as collaborative learning (**Senge**)
- > decision-making as learning through play (**De Geus**)
- > adult learning as trial and error (**Kolb**)
- > leaders as exemplars (**Lorenz**)

10. Absorb into the organisation's persona

Sustaining continuous improvement through Lean thinking requires the previous steps to be embedded into the heart of what the organisation is about. Rather than having a distinct 'Lean programme' or the like, the systems, processes and behaviours that have emerged from the initial Lean work should become part of your organisation's own persona. In doing so, it will shape how people think and talk about you. Over time, this philosophy and way of working should emerge as the your organisation's own - not simply something borrowed from Toyota or the Lean movement - it becomes "the [insert your organisation's name] way of doing things".



The goals and ways of working to achieve continuous improvement become woven into the stories that leaders tell about the organisation and the way that those outside the organisation describe it...

...with emblems and symbols that communicate and reinforce the underlying beliefs and values



Got questions?

Keen to do something to get started on this?

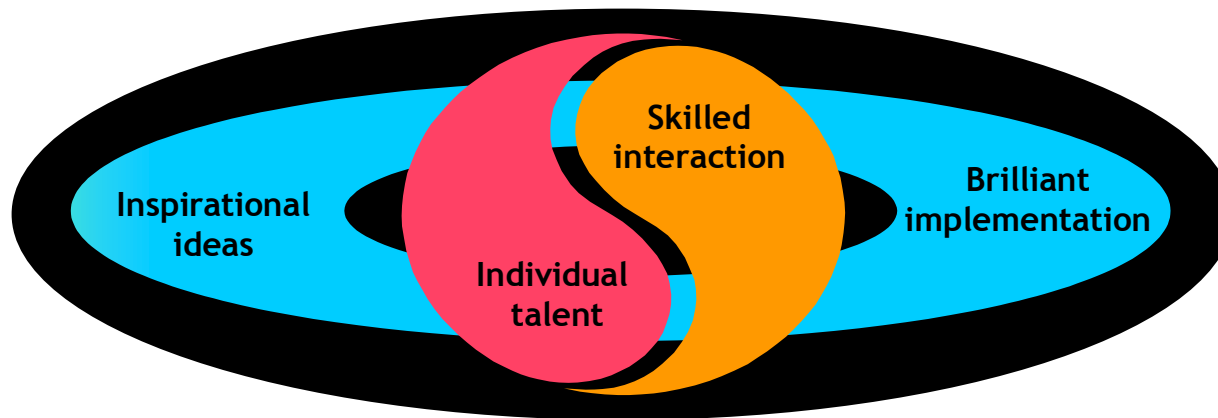
We're happy to share more ideas on what you could do
to benefit from lean thinking for continuous improvement

Contact: ross.pow@idenk.com

idenk support encompasses the critical '4 Is' :
ideas | implementation | individuals | interaction

The inspiration-implementation cycle

All organisations face the challenge of delivering results today while creating fresh ideas that make them successful in the future



The individual-interaction balance

People need to learn how to unlock their talents through building their own capabilities and improving the quality of how they work together