What makes Lean work?

Despite a number pioneering government departments being several years into their lean journeys, and seeing significant changes in staff engagement and step changes in performance, it is clear that there is still more to learn about lean than was originally thought.

Daniel Jones, Chairman of the influential Lean Enterprise Academy and author of two of the most influential books on lean, outlines his recipe for future success.

One of the most significant consequences of the UK government's recent spending review may well be the acceleration in the use of lean thinking to improve both the quality and productivity of the delivery of public services.

Car manufacturer Toyota's lasting contribution to the practice of management is that it created a unique synthesis of three fundamental approaches to improvement: the analysis of quality and the use of the scientific method learnt from Walter Shewhart and Edwards Deming; process thinking about organising the flow of work inspired by the early Henry Ford and honed through Taiichi Ohno's own experiments at Toyota; and how people learn by doing, drawn from the Training Within Industry programme developed by the US Government during World War II.

Many organisations have experienced the power of engaging employees in using lean tools to eliminate waste in their workplaces. Others have gone on to use the lean principles to streamline the flow of work. But in fact these are only part of a very different way of managing and leading change. While a lot has been written recently about Toyota's management tools, such as A3 thinking and strategy deployment, it is equally important to understand the purpose (or the glue) that makes them effective.

The key is not the tools themselves but how you use them. A good way of seeing this is by asking four fundamental questions.

1. How can you focus everyone on the vital few improvements that will make the biggest difference to the organisation?

The lean answer to this is to use the scientific method to understand the choices and to dig down beyond what are, in many cases, symptoms to the underlying causes, many of which are common. Addressing these causes is much more effective than jumping to many different solutions and launching hundreds of projects, in the hope that some of them succeed.

It is no accident that the first things given to a new manager by their superior when they join Toyota are a problem and an A3 form. (See over-page)

The A3 frames the dialogue between the manager and the superior, and ensures that no step is missed in finding a solution to the problem. This begins by defining the problem, gathering facts (rather than just relying on past data), establishing a target condition or the gap to be closed, understanding the root causes of a problem, proposing a series of countermeasures (not just one), checking whether these worked and reflecting on the lessons learnt. Throughout this process the superior is asking questions rather than telling the subordinate the answers.

Defining the problem, understanding the root causes and coming up with alternative ways of addressing the problem isn't always easy, yet can be a truly formative experience which can lay the basis for a deeper understanding of more complicated problems as managers rise through the ranks of the organisation.

This experience greatly facilitates the tough discussions about which of the vital few issues that need to be focused on when drawing up the strategy. It also helps to frame the deployment discussions with each level down the organisation in order to translate these vital few 'goals' into the vital few 'actions' that will close the important performance gaps.

The significant point of using this scientific method to focus on the vital few is that everyone ***learns to think in the right way about the right things***.

2. How can you close the performance gaps which are critical for the organisation?

The lean answer to this is to remove the obstacles to the flow of work that creates the value for which customers are paying, which lean thinkers call a 'value stream'. This involves combining activities which were once separately managed into an integrated value stream, eliminating the sources of unnecessary variation, optimising the whole rather than the parts, removing queues, bottlenecks and handoffs as they cross from one department to another, and aligning the flow of work with the rate of demand.

In most organisations, no one sees or is responsible for these horizontal, end-to-end value streams. There is now a wealth of experience in using the right lean principles and tools in the right sequence to redesign all kinds of value streams.

However, exactly the same principles are needed to streamline and synchronise all the support activities that enable the primary value streams to flow, such as delivering the right drawings and parts to assemble an aircraft or delivering the right test results, take-home drugs and therapies to be able to discharge a patient from hospital.
The third critical dimension to enable value streams to flow is aligning the management decision-making processes with the heart-beat of the value stream, so problems are escalated and responded to quickly and projects are not held up waiting for infrequently held review meetings.

Quite simply, this means seeing and managing the organisation as a collection of inter-connected processes or value streams as well as the traditional, vertical organisation chart.

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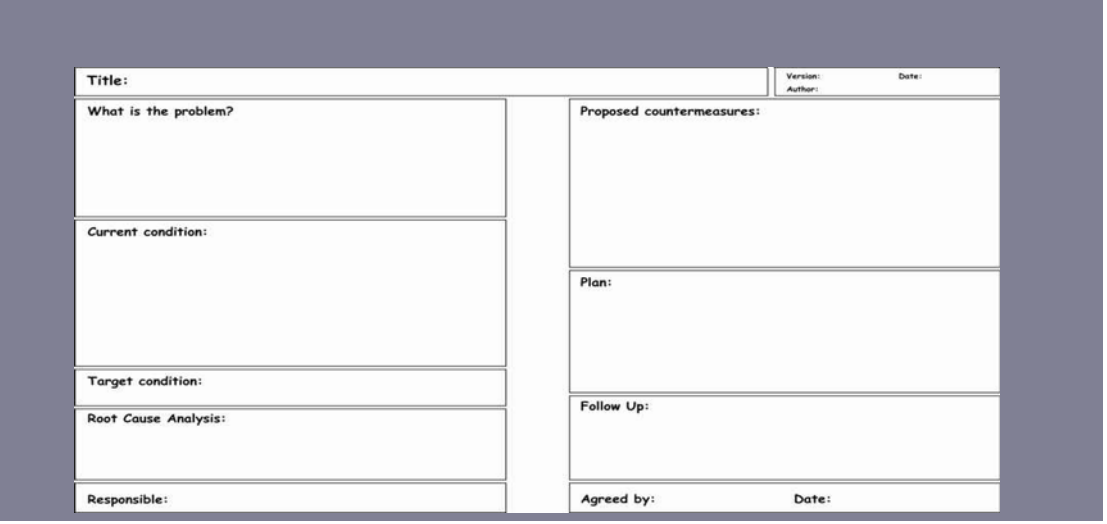

By taking a value stream perspective one is ***learning to see the whole and where to act*** to close the critical performance gaps.

3. How can you change behaviour in order to work together more effectively along these value streams?

The lean answer is to plan not only what should happen to every product or patient as they progress through the value stream but exactly ***when*** this should happen - and to make any progress and/or deviations from this plan as visible as possible. Reviewing progress on an hourly or daily basis enables teams to respond quickly so as to get back on plan and also ensures that recurrent problems are tracked to their root causes.

Making progress and problems visible in a no-blame environment is much more productive than hiding them from view or in a computer system. It is also essential to be able to manage a much more interdependent process to ensure that any interruptions have less impact on the overall system performance.

Anyone who has been part of a value stream mapping exercise will have witnessed the dramatic change in behaviour as participants stand in front of the map and see for the first time how to fix their broken process rather than blaming each other. Managers also begin to recognise that their role is to support frontline staff in doing their work and to help them resolve the most important hindrances to doing so.

This is equally true in a project environment. Toyota's *Oobeya* (visual project room) is an effective way to gain agreement from different departments on common actions and to agree the few common metrics on which the project will be measured. Breaking the work into daily or weekly increments and reviewing progress daily means that slippages and issues that arise can be dealt with quickly, rather than waiting for the next gate review meeting.

Capturing these issues also provides a rich source of learning for future projects. Making everything visual is vitally important in ***learning to work together to optimise the whole system***.

4. How can you sustain the gains?

The lean answer is to build new knowledge through learning and by *doing*. We have already described the power of organisational mentoring using A3s but, in a complicated social environment where causality is not always clear, real learning comes from doing a number of controlled experiments to see what works and what does not. Very often problems do not occur where people think they do and the root causes are also not always obvious. Establishing a common language for all kinds of problem-solving makes it possible to capture and share not only what works but also how problems can be solved, so others can learn from them.

Learning by doing is also the basis for a very different approach to lean transformation. Instead of spending a lot of time planning and then deploying a centrally designed training programme across the organisation, that is quickly forgotten when the experts move on, a lean transformation begins with a series of controlled experiments in key activities to build an experience base as quickly as possible.

This then forms the basis of further experiments and for building communities of practice to share results and experiences. These may also be consolidated on an intranet accessible to everyone in the organisation and reinforced by competitions and recognition ceremonies for the winning projects. This experimental, evidence-based approach ensures that everyone ***learns how to learn by doing and reflecting***.

The Government's recent Spending Review not only focused on 'out-of-the-box' thinking about where cuts could be made, but it also challenged the assumption that improvements in public services can only come about by spending more. Increased spending over the last decade on the NHS, for instance, has not lead to vastly improved productivity.

The Lean Enterprise Academy's work in several NHS hospitals has shown that it is possible to reduce a patient's length of stay by over 50% within 50 days if frontline staff are shown how to redesign and manage the end-to-end patient journey from admission to discharge. But we have also learned that this can only be sustained if management is liberated from the blizzard of policy initiatives, and to focus on the vital few improvements that would make the biggest difference to their hospital.

Lean thinking is the way the public sector can follow private sector service delivery organisations in steadily improving the services they deliver without any additional resources. Given this change in mindset, and the similarity of much of the work being done, there is no intrinsic reason why productivity growth should be any different in the public sector than it is in the private sector. Indeed, the opportunities are probably greater in the public sector over the next few years.

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