Lean Thinking and Practice – part 1

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# Slide 1:

## Lean Thinking and Practice

A system for managing and improving organisations

# Video:

## Denise Bennett

Welcome to this e-learning module. In this short session today we’re going to introduce you to lean thinking and practice, a system for managing and improving organisations. Today’s session is designed for viewers with very little knowledge of the approach.

Let’s start by introducing ourselves and the organisation that we work for. My name is Denise Bennett, and I’m here today with my colleague Alister Lee. We’re coaches from Lean Enterprise Australia, a not-for-profit institute which is part of a global network focused on making things better for customers, staff and organisations.

# Slide 2:

## Lean Global Network

There are more than 30 Lean Institutes like ours working alongside education providers and organisations from every sector in every corner of the earth, demonstrating the benefits of this integrated systems approach to improvement.

# Slide 3:

## Planet Lean

At planetlean.com we share hundreds of stories that show the impact that Lean Thinking and Practice can have on customers, staff, organisations, and even communities.

Alister, would you like to share your experience with lean thinking and practice?

# Video:

## Alister Lee

Thanks, Denise.

I first learned about Lean Thinking when I worked in the automotive industry and our customer, Toyota, came and ran a kaizen event for one of our work teams, and the team, with the guidance from Toyota, made many small-step improvements: rearranging the work, laying it out, making it easier for themselves, and also making the work better quality. And in a short space of time, they actually achieved quite a significant improvement in their throughput and quality.

So that first gained my interest, and I really then learned more deeply by applying this myself to my own work and the work that I did with others in my team. And we found that these ideas of delivering value to the customer, achieving a flow in the work, and quality at the source really made a significant amount of difference.

So that’s what first got me started, and it’s been a long learning journey. I’ve very much enjoyed it, and hopefully you will enjoy embarking on this journey yourselves.

Back to Denise.

# Video:

## Denise Bennett

I trained and worked as a nurse, and always thought I’d be a nurse, but in 2004 I stumbled on Lean Thinking and Practice when I was working in a hospital in Adelaide where too many patients were dying because of overcrowding in our system. We knew we had to try something else, so we started to learn this approach from car manufacturing. The impact was profound. Using the techniques we learned, we increased patient throughput with no additional beds. But best of all, we became a safer hospital.

In 2009 I moved to Melbourne, where I started applying these ideas to local government. Processes everywhere, some of them broken, most of them not designed, and certainly not designed to deliver customer value. Everything seemed difficult for our customers to do.

Lean thinking and practice worked everywhere that we tried it. We made hundreds of processes easier, better, faster and cheaper for our residents, businesses and visitors to the city. I’m sold on the approach, and I’ll continue to spend my working life helping leaders and organisations realise the benefits of applying Lean Thinking and Practice in their workplace. Our patients, clients and customers deserve it.

# Slide 4:

## Purpose

So now you know something about our background and our passion for this approach, let’s get into the content for today. Firstly, where did the approach come from? Secondly, what’s involved in Lean Thinking and Practice? And thirdly, through some examples we’d like to share with you how it can help organisations.

# Slide 5

## Alister Lee

In this section we’d like to give you an overview of the history of lean and the evolution of some of the other improvement methods, and we’ve picked out some of the leading thinkers.

# Slide 6

Let’s start with Henry Ford. One of his significant contributions was thinking about flow. He lined up processes and had the vehicle travel through these processes, being built up into a complete vehicle rather than building things in big batches and moving things between departments.

# Slide 7

Next we have Walter Shewhart and Edward Demming, some of the key leaders of the quality movement, who brought a scientific approach to improvement and a real focus on quality to the customer, and PDCA, Plan, Do, Check and Adjust was one of the scientific methods that still prevails in improvement methods today.

# Slide 8

During the Second World War, the women came into the factories to build munitions for the war effort, and they developed some really good methods of training people, which became known as training within industry. These methods were picked up in Japan after the Second World War, and many lean organisations are now realising how important it is to have good training techniques.

# Slide 9

Many of the principles and techniques that we now know of as lean Thinking were developed by Taiichi Ohno and his colleagues at Toyota as they developed the Toyota production system. He came up with many of the ideas of looking at your process in terms of value versus waste, eliminating waste, getting a flow in those processes and responding to the pull of the customer.

The photo in the centre marks the transition of lean thinking outside of Japan into the US. What you’re seeing here is a partnership agreement being signed by the head of Toyota and the head of General Motors to do a joint venture, NUMMI, in California, a very significant story, very well documented, but showed the transition of these methods as Toyota ran this plant and turned it from one of the worst plants in all of General Motors to one of the best, really using problem solving and managers really engaging with the people to solve their problems and improve quality of the vehicle and their productivity.

# Slide 10

These two researchers, Jim Womack and Dan Jones were involved in a large global study of the automotive industry in the 90s, and they discovered that Toyota was significantly ahead of its competition through the work that it had done developing its production system. So they wrote initially a book, **The Machine that Changed the World**, and then the second book was **Lean Thinking**, which enabled the spread of these methods out into other industries and other work environments, and they set up institutes around the world to spread this knowledge.

# Slide 11

Next we have the development of Six Sigma, a statistically-based problem solving technique with the acronym DMAIC, Define the problem, Measure, Analyse, Improve and Control. Jack Welch from GE is shown here as he made this famous by really adopting it within GE and publicising the significant savings that they achieved.

# Slide 12

In 2001 a group of IT professionals developed what they called the Agile Manifesto. There are many links between lean thinking and the agile approach, for example, a focus on customer value and delivering working software, breaking the project down and delivering the software in a more iterative approach, cross-functional teams, use of visual management, very much similar to methods used in lean.

# Slide 13

Lean thinking and practice has spread rapidly out of manufacturing and into many service businesses, and here we have some of the pioneers of that transition into healthcare, government, software development and finance.

# Slide 14

Of course, the principles of lean thinking apply not only to improving existing processes but also to developing new products and services. There’s a lot of work being done on that design end with the lean community developing lean product and process improvement methods.

Another method is design thinking, with its PDCA version being empathise with the customer, define, ideate, prototype and test.

# Slide 15

We have also seen lean thinking and practice spread into the uncertain area of creating startup businesses. Eric Reis has made a significant contribution here.

# Slide 16

So improvement methods have been developing over a long period of time and have spread now into most industries, and the focus has been not only developing processes and improving the way people do the work, but also building management systems that support this effort.

# Video:

## Denise Bennett

So now we’ve covered the evolution of lean thinking and practice, let’s look at what’s involved in lean thinking and practice.

# Slide 17:

## Lean Thinking and Practice

At an introductory level there are two core ideas that we believe are really important.

Firstly, creating and delivering more value to our customers by reducing the waste in our processes and work.

Secondly, and maybe even more importantly, is that we develop our people and teams across the organisation to be able to do this. It becomes part of everybody’s job and is something that we focus on every day.

# Slide 18:

## Lean process improvement

Let’s expand on these two core ideas.

Many improvement methodologies use process mapping or flowcharts to describe what’s involved with a process. After we go and observe, we can document step by step what happens.

The lean approach has some added features which can really strengthen what is learned from following and mapping a process. Within each process step there’s work that occurs. It’s likely that a lot of that work doesn’t add any value from the customer’s perspective. The actual value created from a customer perspective will be small. The rest is likely to be either necessary, non-value add or waste.

For example, when a home care worker goes to visit a client to help them shower, they might have to fill up their car with petrol on the way to the house. This doesn’t provide any value to the client, but it’s a necessary step, and so we call this necessary non-value add.

At the client’s home, the home care worker uses a mop with a defective head and needs to stop constantly to adjust it. This means the home care worker takes a lot longer to do the process and the floor isn’t cleaned as well as it should have been. This would be classified waste from the perspective of the client, and probably also the home care worker, who is just as frustrated by the problem.

The other thing that we’re interested in with lean thinking and practice is what happens between the process steps. Is there waiting between one process step and the next? Does the work build up between the process steps, forming a queue?

# Slide 19:

## Types of waste

We can organise these wastes that we’re talking about in our processes into eight categories, and one acronym that helps us remember them is **Downtime**.

The D stands for defects. An example of this is the mop with the faulty head.

The O, over-production. An example of this could be if we get too many flyers printed. We have more flyers than what we need and they end up in the bin because they’re no longer current.

The W stands for waiting. Most of us arrive on time for meetings, but we can’t start because others haven’t arrived. This means dozens of us sit around daily waiting for meetings to start. What a waste.

The N stands for non-utilised people. According to Toyota this is the worst waste of all. It can be thought about in two ways. First of all, wrong people doing the wrong work. This might be a skilled professional who spends a lot of time organising meetings while their other work piles up. But the other way of thinking about non-utilised people is not using the ideas and talents of the team, wasted potential that we don’t tap into to make our processes better. This potential is lost forever.

T is for transportation: Moving equipment from one room to another or one site to another.

The I stands for inventory: Piles of medical records accumulating when patients arrive more frequently in an emergency department that they can be processed.

M stands for motion: This might be the 20 metre trek to the printer that you have to do a hundred times a day because you can only print when you enter in your code.

And then finally E for extra processing: An example of this might be requiring five signatures to purchase a piece of equipment that costs $35.

So in lean thinking and practice we’re committed to constantly reviewing our processes to see where these wastes are occurring, and finding ways to eliminate as much waste as we can, all in an attempt to deliver more value to customers, or increase the amount of value we provide to each customer.

# Slide 20:

## Developing people and teams

The second core idea that we want to convey today is that lean thinking and practice is about developing people and teams. The people who do the work are given the responsibility, the skills, and the time to improve the work. They know it better than any executive, CEO or external consultant. So as a coach I like to focus on developing frontline leaders who in turn will use what they have learned to teach and work with their staff to solve problems and improve.

I think this sentiment is summed up by this quote from a Toyota leader: “At Toyota we get brilliant results from our people operating and improving brilliant processes. Our competitors get mediocre results from brilliant people working around broken processes. Then, when they fail, they hire even more brilliant people.”

# Slide 21:

## Example – Home and community care services

The third part of this e-learning module addresses how lean thinking and practice can help. We thought the best way of showing this is to share a few case studies.

The first one is an aged care and community services example, where their problem was increasing demand for services – 570 clients and rising. All the work of the new clients was stopping them from reviewing existing clients, and this meant that they didn’t know if these clients were getting the appropriate level of care, except when they called to say they had needs that weren’t being met.

We found a lot of interesting things when we looked at the existing data on processes. We looked at 100 case files that showed that 79% of clients were just receiving a single service, and 21% multiple services. However, many of our processes, including assessment, were designed more for our complex patients. We found that documentation of the assessment was taking a long time – 21 minutes longer than it took to do the assessment. There was a lot of duplication and extra processing. A one size fits all approach was creating a lot of additional documentation that was never used.

With a deep understanding of the current state, we’re in a really good position to redesign the assessment and documentation process through the lens that 80% of patients fit into the simple or one service group. We made a visual board so the team could keep track of where things were up to and meet regularly to manage the work.

Six months later, these improvements, combined with some others, meant that the team had time for their review patients, and the backlog of this group of patients decreased by 84% – a great result.

# Slide 22:

## Example – Maternal and Child Health

The second case study starts with a similar problem: An increased demand for a maternal-child health service due to an increased number of births over several years. The team were finding they were having to work harder and harder to provide a service. It was difficult to make appointments within the legislated timeframes.

Despite everyone working really hard, there were opportunities to work smarter. We dug deep to find out where the nurses were spending their time, and found that only 54% was spent in consultation with mothers and babies. More than 20% was spent in non-nursing work, which was mainly scheduling appointments. The nurses believed that they needed to speak with the new mums in the first few days to identify any risks. They also felt that they could really be the only ones to manage their schedules. Often when the mums called, the nurses would be busy, so the nurse would then call back when they were free but maybe the mum was not free at that time or was taking a well-earned rest.

When we surveyed the mums, we found that most of them did not care to speak to a nurse and just wanted to make the appointment at a time that suited them. We also found that the number of clients that did not attend for the visits was an alarming 10%. These clients who “do not show” are often found to be at risk. They really need the support that this service offers. Also, the “do not shows” create vacant slots for the nurses, precious capacity that’s lost forever.

So what improvements did we make? One of the things that I really like about this case study is that we actually put on an additional team member, a dedicated scheduler to help the existing reception team with the process of appointments. People often think lean is about reducing staff and doing more with less. For me, it’s more about the right people doing the right work.

Along with some changes to the scheduling process and the introduction of SMS alerts for appointments, we found this worked really well. After a three-month trial we created a business case to show how the additional resource had resulted in improved performance. Nurses’ time with mothers increased to 63%, and the “do not attend” rate fell dramatically to 4%. This was particularly gratifying for the nurses, who were very concerned about the mums and babies that did not show. The nurses felt the processes were safer.

These changes took over a year to complete. Some of the reasons for this included the need for business cases for IT in the new scheduling role. But the other reason it took longer was to engage and teach the maternal-child health team, so that they understood the thinking, the practices and tools that lean thinking and practice had to offer. This meant they would be able to repeat and use the approach in their work over the years to come, not just as a one-off project. It reinforces the second point we made about lean thinking and practice: That it’s about developing the people who do the work.

# Slide 23:

## Example – Training Attendance

The third case study has a completely different flavour. It’s from a staff development team within a large organisation where they identified that 17% of staff were not turning up for training that they had booked for. This resulted in several problems. Often the team had paid for external trainers who obviously cost money. Also when people didn’t attend it meant that others missed out.

So after identifying this problem, the team actually didn’t do anything very much. They just started to measure what was happening on a weekly basis, and each month they increased the organisational visibility of the problem by sharing it with the managers, directors, and even the CEO. As you can see, this increased visibility improved performance, and within a few months the team was achieving their target of 90%. This is a great example of a team-led improvement that made a real difference to their work and job satisfaction.

In these three case studies we’ve shown how lean thinking and practice can impact on the quality, timeliness, and the cost of our services. But it can also improve the experience for its customers, staff, and benefit the organisation as a whole.

# Video:

## Alister Lee

Thanks for joining our e-learning session today. We hope that we’ve successfully shared some of the introductory concepts of lean thinking and practice.

# Slide 24

By covering its origins we showed the ongoing evolution of a management and improvement system that’s grounded in the practices of Toyota, but heavily influenced over the years by western experiences. And we’ve learned that the evolution continues.

# Slide 25:

## Lean Thinking and Practice

We then shared a couple of lean concepts about lean thinking and practice.

# Slide 26:

## Lean process improvement

But we were always focused on increasing customer value.

# Slide 27:

## Types of waste

And that we do that by relentlessly removing waste from our processes.

# Slide 28:

## Developing people and teams

We do this through the efforts of our people, using their talents and developing them to improve the work using a range of proven techniques and practices. Lean thinking and practice is foremost a people development system.

# Slide 29:

## Example – home and community care services

Finally, we shared three case studies…

# Slide 30:

## Example – Maternal and Child Health

Demonstrating how the approach can be used in the service environment…

With outcomes for the customer or client…

# Slide 31:

## Example – Training Attendance

… staff, and the organisation as a whole.

# Video:

## Alister Lee

We encourage you to reflect on whether your processes are focused on adding value for your customers. Could you and your team save precious time by reducing waste out of the system? Could you reduce customer wait times for services? Are you developing team members to improve their work?

# Slide 32:

## Lean Thinking and Practice

We believe lean thinking and practice is a great way to do this, so please give it a try. Lots of small-step improvements can have a big impact.

# Slide 33:

## National Disability Services

NDS is the peak body for more than 1,000 non-government disability service providers and is the only organisation that represents the full spectrum of disability service providers across Australia.

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