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INTRODUCTION TO LEAN

Welcome to *The Lean Book of Lean*: a not-too-daunting volume about a subject that has been the subject of ebbs and flows of popularity over the last three decades. Lean has seemed to reinvent itself over and over with a few name changes along the way. To some, it's a silver bullet capable of saving the world as we know it; to others it's had its day and should move over and let the new silver bullet take the limelight. To others still, it's just a name for a collection of tools that have been around a long time and seem to be of some practical use. For me? Well, I'm inclined towards the last group. Enough of this philosophical wittering, I've only got 70,000 words to play with, so on with the book!

In this first chapter we will do a brief exploration into what Lean is, where it can be applied and what certified level of Master Wizard you need to achieve to be confident you can apply it without destroying the universe.

The definition of Lean

“Lean Production is ‘lean’ because it uses less of everything when compared to mass production – half the manufacturing space, half the investment in tools, half the engineering hours to develop a new product in half the time. Also, it requires keeping far less than half the

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needed inventory on site, results in many fewer defects, and produces a greater and ever growing variety of productions.”

MIT's International Motor Vehicles Program (IMVP)

“Lean’ is not a new concept. If you are reducing inventory, expanding jobs and responsibilities, participating on a multi-functional work team, benchmarking, or creating and maintaining relationships with customers, then you are practicing a part of lean production.”

The Lean Aerospace Initiative (LAI)

“Lean Manufacturing is a manufacturing philosophy which shortens the time between the customer order and the product build/shipment by eliminating sources of waste.”

Mr John Shook

“TPS (what is now called Lean in some quarters) is a manufacturing phenomenon that seeks to maximize the work effort of a company’s number one resource, the People. Lean is therefore a way of thinking to adapt to change, eliminate waste, and continuously improve.”

Mr Ohno in a discussion with Mr Cho: Toyota Motor Manufacturing Company

“Thin: lacking excess flesh”

www.wordnetweb.princeton.edu

The above are just a few definitions of Lean that I picked up from a quick trawl of the Internet; there are literally hundreds out there, each concocted to send a specific message to the audiences in mind. I particularly like the last one as it is closest to the true meaning of the word and less wrapped up in jargon, in other words, Lean. To me, the best definition of what we are talking about here – one I’ve used a lot and will refer back to a few times throughout this book – is summed up by the lazy person’s approach to life:

“Doing the absolute minimum necessary to get the desired result.”

Lazy or smart? In my opinion, the successful lazy person has to be smart to figure out how to get away with it, so probably both. The

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way I see it, as long as you keep this principle in mind at all times when you are looking for improvement opportunities, you won't go far wrong. However, does this mean cutting corners, shoddy work and dissatisfaction with your performance in the eyes of those around you and your "customers"? No, not if you define "desired result" correctly. This is the one most critical part of any Lean application: defining the outcome you are looking for. Although this seems obvious, it never ceases to amaze me how many businesses embark on an improvement programme without a clear understanding of what they are trying to achieve. We will cover this in the next chapter in some depth, so enough on this for now.

Lean – the natural order of living

Many consultants, "black belts" and business leaders would like us to believe that Lean is some mystical state of mind, something which takes years of experience and astute business know-how to understand or implement. But I don't believe this is true, the evidence is all around us that Lean is a natural way of working for us, not something we have to study and practise devoutly for decades to understand. This one issue, the common belief that Lean is somehow magic, is the biggest blocker to progress in my opinion, the main reason it takes so long sometimes for the light bulb to come on. I've heard time and time again, "It can't be that simple" but yes it is, really it is.

To prove the point, let's take an everyday example, and on the way introduce some Lean jargon.

The shopping trip

All of us have done it – been to the supermarket for the food shopping. OK, so what, you might say, not much to think about there is there, and what has food shopping got to do with running a Lean

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business? But let's take a step back and think about the process a bit more.

What's the objective? To use scarce resources, your money and your time, to get all you need to run a house and feed a family for a few days.

Any parallels so far? Well, consider the resources: money and people; businesses use those, and both are always in short supply. Stuff to run a house and feed the family can be considered as buying supplies and raw materials, to be made into products for your family, sorry, customers. OK, it seems to work so far.

Now for the process. Most people going food shopping do some checking first to see what's needed before setting off, then create a list, either literally or subconsciously. The trick is getting the right amount. Too little and the kids start complaining about the lack of dinner, too much and the stuff won't fit in the fridge or goes off before you can use it. How do you do this? You look in the cupboards and the fridge and, based on what's there and your knowledge of how much you generally use in the periods between shopping trips, figure out what needs to be bought to last you through to the next time you go shopping. Oh, by the way, you just remembered that Granny is coming to stay for the weekend so you will need some extra milk, eggs and a larger piece of meat.

This is all so obvious and natural that most people can do it, and for the seasoned food shopper, it happens even without thinking about it. But we have introduced some very important Lean concepts here, so let's go over it again from a business point of view: Understanding the right level of inventory to support demand but avoid write-off, slow-moving and obsolete stock, based on historical demand. That's all about the core Lean concept of the Inventory Control Point (ICP) or Strategic Buffer Replenishment model of supply, where you periodically look at your current inventory and replenish back to the top of the buffer. The buffer is calculated based on historical demand and trends: a forecast. Just like when we go shopping, we might know that, on average, we use four litres of milk

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between shopping trips (the forecast) but that doesn't mean that we blindly go out and buy four litres every time we go shopping: we take a look in the fridge and realise that we ought to top up to five litres (four on average, plus one so we don't run out if we overuse); see there are two left and only buy three. The forecast is a guide, not something we execute blindly. Oh, and the Granny visit? That's adjusting the buffer for known events as part of the Event Management Process. No known events, just maintain the status quo, no need for a complicated planning session.

Now let's take a closer look at what the fridge does. The fridge is the buffer between the supply of food and the family, allowing periodic shopping trips and absorbing variability in the consumption of food. It's also a visible trigger that a shopping trip is necessary as the supply of critical foods gets low. In Lean terms, the fridge is a very effective kanban.

These simple mechanisms allow shopping trips to be made at regular intervals, the right amounts of food to be bought on each trip and avoid wasting food. The key thing here, though, is that this works perfectly without having to know in advance exactly what everyone is going to eat over the next week. In other words, the forecast does not have to be accurate at a detailed level, only at a macro demand level. The kanban (fridge), real time shopping list and relatively frequent shopping trips handle the day-to-day variability automatically.

However, just one cautionary footnote before we delve into more detail. As I'm sure everyone has experienced, sometimes this can all go wrong. The fridge is full with food all close to the use-by date and the things you want are just not there, or buried under this pile of soon-to-be-trashed food. Why did this happen, if it's such an effective Lean tool? Does this mean that everything said so far is just mumbo-jumbo and doesn't work in the real world? Well, let's take a look at what probably happened here.

When you take a closer look at what that expired stuff is before you chuck it all in the bin and reflect on all the wasted cash, we see a couple of recurring themes.

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Firstly, a lot of it is the dreaded “impulse buy”, in other words, a lot of stuff you never really needed in the first place. Secondly, you’ll find several packs of the same thing and if you cast your mind back you’ll probably remember the “three for the price of two” deal on at the time, persuading you to part with your money to get something free. In reality it’s not as free as you first thought, as you end up paying for two when you really needed one and end up throwing at least one away. All of these problems are as a result of caving in to the devious antics of the supermarket marketing ploys, which waste your money and fridge space but keep them in business.

Yes, but this is just silly shoppers being duped, right? Real business people don’t fall for this do they? Really? Never heard of instances where Purchasing get a good deal by buying larger quantities of something that sits on the shelf for the next three years?

The bottom line here is discipline. This is at the heart of Lean thinking and good shopping or business management. If you don’t stick to the rules, all the best ideas and processes in the world won’t save you.

So there you have it. We all do some Lean in our everyday lives and we don’t even think about it. Basic common sense, I hear you say, and indeed it is. This is just one example of Lean concepts showing up in everyday life – there are many more if you stop and think about it. So why do businesses have so much trouble and employ armies of people to do something that simple? In my experience, small entrepreneurial companies don’t have this problem; they run their businesses like families and employ Lean concepts naturally, just like you and me. It’s the bigger guys who seem to have the problem. Their sheer size, organisational structure and hierarchy seem to prevent them from behaving in a natural way. So we need to find a way to break through this constraint and get the organisation thinking like they do when they go home.

The first step in this is to define a small set of common sense-based principles that everyone can get their heads round and embrace.