

Understand LEAN in 30 Min

Reut Barak

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To the incredible James P. Womack, Daniel T. Jones, and Daniel Roos who wrote The Machine That Changed the World. To all the workers of Amazon who implemented it, and to John Shook who helped so many companies since project NUMMI understand Lean.

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The Story of Lean

Toyota. A failing company, struggling with financial loss, about to fire workers.

Fast-forward to Lean: Toyota is the number-one company in the world of car manufacturing.

How did they do it? How did this one brave company face its severe circumstances and win against all odds? Grasp this story and you will be a natural at Lean.

In this book, you will learn the basics of Lean and understand Lean tools through one of the most inspiring transformation stories in business history.

You will grasp the main elements of Lean:

- Just-in-time production
- Continuous improvement
- Eliminating waste
- Lean employee culture

And learn the basic Lean tools:

- Kanban
- Kaizen
- 5 Whys
- 7 Wastes – Muda

- 5S
- SMED, or Quick Die Change (using Formula 1 as an example – no kidding)
- Andon
- Customer Obsession
- Process Mapping
- Gemba Walk
- Pareto Effect
- Six Sigma

I promise you will never look at processes around you the same way again.

I. A Failing Company Ready to Rise

“A diamond is a chunk of coal that did well under pressure.” – Henry Kissenger

It is hard to believe that Toyota’s story started with failure. Most people have heard about Toyota as an example of excellence in manufacturing; and its Lean methods made other companies successful, too. For example: Project NUMMI, where Toyota took a failing General Motors plant and brought it to be one of the top three production plants in the world at its time – with 80% of the workforce still being the General Motors workforce, but under Toyota management.

But that was afterwards.

Lean Manufacturing actually resulted from a desperate attempt to survive, from a necessary need to create a new system that saved the company.

Toyota started as a truck manufacturer for the Japanese military during World War II. But in 1949, a severe reduction in sales hit; there were not enough orders coming in, so there was not enough work for its people or money to pay salaries. They decided to fire workers.

The workers’ union fought back. They put up a strike and the head of the company, Kiichiro Toyoda, resigned.

Toyota faced a hostile environment on eight fronts:

1. Revenue:

When Toyota saw its sales collapse towards the end of 1949, it was producing about one thousand units per month. In comparison, the big three producers in Detroit at that time made that amount in one day, and on just one of their assembly lines.

2. Cost:

Toyota did not have the capacity to mass-produce, as American competitors of the time did, so it did not have the option of cutting costs through scale in order to survive.

3. Market demand:

After the war, the Japanese market was very small but demanded a variety of vehicles. Each different car required its own setup. In comparison, American mass-producers of the time, like Ford, only produced a handful of models.

4. Workers:

Toyota had a strong union. New labor laws, installed

by the US occupation of Japan after World War II, made it difficult to fire workers. Workers also had other good companies to choose from, so expectations from the workplace were high.

5. Finance - banks would not loan:

On top of its other financial difficulties, Toyota's bankers refused to issue new loans to the company.

6. Technology:

Due to its financial difficulties, Toyota could not afford to purchase Western machinery and technologies to match its foreign competitors who had mass-production equipment.

7. Competition:

Foreign motor producers were ready to enter Japan. These companies could successfully defend their own markets against Japanese exports. Toyota and the rest of the Japanese market had to deal with this cut-throat playing ground.

8. Government Pressure:

To top it all, the Japanese government was putting

pressure on smaller manufacturers. It was trying to design a more concentrated market by merging car producers, to create larger companies that could compete in the American market.

Couldn't be worse!

What Toyota invented to survive not only saved the company, but made it the best car producer in the world of its time, and its new production system dominated the market.

2. A New Culture

“No one can whistle a symphony. It takes a whole orchestra to play it.” – Halford E. Luccock

The new Toyota Production System (TPS), now known as Lean Manufacturing, was created in 1950 by industrialist Eiji Toyoda, who visited the Ford River Rouge Plant in Detroit, and engineer Taiichi Ohno.

They did it through cultural change. This cultural element of Lean is the hardest to understand for companies looking to implement the system today. It is too different from what they know.

Let’s walk into a “normal” company for a couple minutes. For one, it is rare to find employees who have been there for a long time, especially not on the shop floor. The “little people” – those who do the actual job and know the process best – are the least paid, because salaries are based on job title to encourage new managers from other companies to enter leadership roles. The workforce has limited time contracts and is easy to fire and replace. The emphasis is on doing your own job, as quickly as possible and in isolation. Expertise is not valued – it will not raise anyone’s salary.

About the Author

The boring bit:

Reut Barak-Smith started her career as an air-force business analyst. She holds an MBA from the University of Oxford and worked as a Project Manager in the fields of manufacturing, finance, and energy, with projects up to a value of \$500m. Passing both her Lean Six Sigma Green Belt and Black Belt exams above 90%, she also holds a Prince2 Practitioner, Scrum Master, Level3 Investment Operations Certificate (IOC), EIMA Practitioner and an ISEB Practitioner.

The exciting bit:

Incidentally, she also has a bachelor's degree in opera singing, and an adventurous love for hiking in the highlands. She's passionate about her self-publishing business and her books in both fantasy fiction and funny fairytales, and her raw vegan cookbooks and YouTube channel. She likes to play Mozart concertos to her toddler and play board games with her husband.

Want to know more? Check her out and see her other books now on: www.reutbarak.com/books.

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