

# BKtrends

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# Do the promises of Lean harbour potential?

## An exposition of Japanese

In 1984, General Motors and Toyota reopened a factory in California. This joint venture was known as 'New United Motor Manufacturing' (NUMMI) – an automobile manufacturing plant. In this plant, GM's intention was to learn more about Japanese production systems by implementing Lean thinking into NUMMI. What is Lean, and what is so extraordinary about it, that an American company (with American workers) implements it?

Lean manufacturing is a production practice which focuses on the value adding process, and consequently regards all other expenditures of resources as waste. Its origin is derived from the Japanese automobile industry. Its effectiveness is shown by the Toyota company we still know today. Not to mention, the successful implementation of lean manufacturing by thousands of companies around the globe.

"all of the company's energy and creativity is used

As noted, Lean's common purpose is to eliminate waste. Do not confuse waste with garbage, it is interpreted in the broadest sense of the word, meaning: defects, overproduction, excessive transport, over processing, unused capacity, waiting time, motion and overstocking. If we eliminate all these kinds of waste, the products will not only be made with reduced cost, but also with a higher quality. In order to eliminate waste, a company needs a flat hierarchy and responsibility on the work floor. Every worker matters, and every worker can realise a significant change within an organization. Therefore, each input – no matter how minor – can, and will improve the company as a whole.

Before, we established that there are eight types of waste elimination. In the figure 'The temple of Lean', Lean is illustrated in the form of a temple; waste elimination constitutes the roof of our temple, which prevents the rain from falling on us. To make the roof stand firm, it is supported by two pillars: talking and teamwork. Without them, the building



With Lean, overproduction is a thing of the past

would collapse. Even with reduced communication and teamwork, the inside of the temple might get chilly. At the bottom of the temple are tools to realise the purpose mentioned above, waste elimination.

One of these tools is the value stream: find processes that add value and revise the ones that are not. Further down is pull production, a well-known production practice which is characterized by a lower (and more consistent) work in progress than a push production system. With pull, the system is triggered by the demand of the customer: only when customer orders are received, only then, the factory will start producing. With good execution, the temple, which represents our company, can be perfected.

The Lean principle is commonly characterized by practising Kaizen, pull production, line balancing, Just-In-Time (JIT) and Kanban within the factory. For example, the idea of Kaizen (to continuously improve oneself) states that not one day should pass by without improvement. In addition, Kanban is also interesting to be used within a pull system. Essentially, it consists of signal cards to trigger actions at a previous workstation. Only products with Kanban cards

# Manufacturing still

## practices

attached to them are ready to go into the production at a certain workstation. Hence, work in progress is kept low.

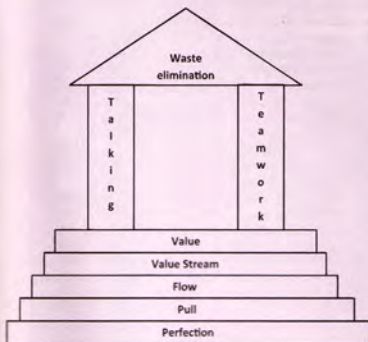
After working decades with Lean, advantages and disadvantages were unveiled. Its primary advantage is that all of the company's energy and creativity is used to optimise all facets of value adding processes for customers, with the lowest costs possible. However, a major disadvantage also lies within this argument. It lies in the attitude to continuously improve all aspects of the production line. Because of this attitude there will be less energy or creativity left for finding innovative ways of production. It is also common knowledge that Japanese organizations have a very rigid structure. However, Toyota knows this weakness and that is why they adopted ten core principles to make innovations happen. The most important ones are:

- Let learning lead — Asking the right questions is more important than getting the right answers. Learning always comes first.
- Learn to see — Look at what is really happening, what does the customer really want?
- Make Kaizen mandatory — Standards must be challenged and changed, keep improving them to realise new standards.

With the NUMMI case, the jobs offered were repetitive, as workers were required to do the same actions on the assembly line. However, the loans were relatively high. Despite the repetitive movements, the workers were satisfied with the jobs they had. Not simply because of the high loans, but also because of the job security and friendly atmosphere at NUMMI.

## to optimise all facets of value adding processes"

Within NUMMI, General Motors learned a great deal by practising Lean, and not without success, as the manufacturing plant in California is still in operation. Worldwide, we noticed that Lean can be implemented in many different sectors. Its principle asks that everyone in the company uses their ingenuity, that it is worth striving for perfection and to create an inspiring social context which realises innovations. By following these principles, perfection might just be around the corner.



The temple of Lean