

## Value Stream Mapping Overview

Taiichi Ohno has long been credited as the architect of the Toyota Production System when asked what he was working on he would invariably answer “Reducing Leadtime”.

### What was he referring to?

Taiichi Ohno dedicated his life work to reduce the time from when the customer placed an order to when the customer received the product. By focusing on this all the waste within the production leadtime must be identified and slowly but surely extracted to the benefit of the customer, the workers and hence the company. To allow this cycle and the system that delivers it to be understood, Toyota developed Material and Information Mapping, this is now commonly referred to as Value Stream Mapping a term coined by Womack and Jones in their bestseller “Lean Thinking”.

### What is Value Stream Mapping?

This cycle consists of many layers, first are the processes required to produce the product. Here we are interested in the whole suite of processes needed to create the product, their cycle time, performance (reject rate) and how many people is associated with each process. Of equal if not more significant is what happens to material between each process, how much is available and how long it takes to consume this inventory. The second layer is the information flow, here we are concerned with the customer’s requirements, and how this is communicated to the suppliers. What is the frequency of delivery and how the processes are scheduled? So any Value Stream Map will have three component parts. The information flow from the customer, to the supplier and to each process (how the work is scheduled and whether these signals are “Push” or “Pull”). The Material Flow, what work in progress is present before each process and the attributes of that process. The timeline is the primary attribute of the manufacturing system that defines its ability to respond to the Customer.

### Value Stream Analysis

The mapping process is iterative moving from Current State, to Ideal State and then Future State. Part of the latter phase is a time-phased action plan that defines the projects to be completed to attain this target condition. This is used to focus the resources and skills to succeed. The steps required to complete this are outlined below. It is recommended that Value Stream Mapping be conducted by Management and key members of the Lean team. This will involve all the critical people in the process and ensure leadership commitment for system change.

#### Steps in performing Value Stream Mapping and Analysis

