

Lean in ITES

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Introduction

Over the last few decades, off-shoring has become increasingly popular and in fact off-shoring is considered as a solution to contain increasing labor and overhead costs. The advance in IT and Telephony industries, availability of skilled manpower and other resources at a lesser cost in developing economies provide a host of service providers across the globe to partner with to get off-shore services.

On the flip side, the service providers face challenges of providing high quality service at constantly escalating costs. Considering this scenario, service providers are required to adopt methodologies such as Six Sigma, Lean, Total Quality Management etc to continually enhance their services in terms of Productivity and Quality.

Manufacturing industries have effectively implemented Lean to achieve lower production costs and higher quality. This article would explain how Lean can be built into the system in Service Management.

Evolution of Lean

Lean thinking got its title from a 1990's best seller called *The Machine That Changed the World: The Story of Lean Production*. This book chronicles the movement of automobile manufacturing from craft production to mass production to lean production. It narrates the story of how Henry Ford standardized automobile parts and assembly techniques, so that low skilled workers and specialized machines could make cost effective cars for the masses.

A country like Japan could not afford to investment in specialized machines that seemed to be required for mass production. Nor could it afford the inventory or large amount of indirect labor that seemed necessary for mass production. So it invented a better way of doing things, using very low inventory and moving decision-making to production workers. Today, it is one of major automobile manufacturing company known as Toyota, and the Toyota Production System is known as 'Lean production'.

Basic Principles of Lean

There are four basic principles of Lean which are relevant to any type of industry.

i. Add value from the customer perspective: This principle focuses on differentiating all value adding activities from that of Waste (Muda). It is very essential to understand what the customer perceives as value before implementing this principle.

ii. Identify the value stream: Identify those activities which create value from customer perspective from receipt of input to delivery.

iii. Flow value from demand: Work on the input continuously from beginning to end so that there is no waiting time, downtime or waste between process steps.

iv. Customer pulls the products/service: Let the customer pull the product/service from value stream. This eliminates excess inventory, design controls and obsolete design/material being used.

Wastes in Service Industry

Anything or any activity that doesn't add value from customer perspective is waste. The general wastes associated with the flow in service organizations are as below:

Type of waste	Description of waste	Examples
Over-production	Early processing Processing more than required	<ul style="list-style-type: none"> Information sent automatically even when not required Printing documents before they are required Processing items before they are required by the next person in the process
Defects	Errors, mistakes and rework	<ul style="list-style-type: none"> Rejections in sourcing applications Incorrect data entry Incorrect name printed on a credit card Surgical errors
Inventory	Possessing information/data more than required	<ul style="list-style-type: none"> Files and documents awaiting to be processed Excess promotional material sent to the market Overstocked medicines in a hospital More servers than required
Over-Processing	Processing more than required wherein a simple approach would have done	<ul style="list-style-type: none"> Excessive paper work to process a loan Same data captured multiple times in an application Follow-ups and costs associated with coordination Too many approvals MIS Reports
Transportation	Movement of items more than required resulting in wasted efforts and energy and adding to cost	<ul style="list-style-type: none"> Movement of files and documents from one location to another Excessive e-mail attachments/Email confirmations Multiple hand-offs
Waiting	Employees and customers waiting	<ul style="list-style-type: none"> Customers waiting in a queue to get answer from CSR Customers waiting in a bank to get a demand draft Processor waiting for system to come up for processing
Motion	Movement of people that does not add value	<ul style="list-style-type: none"> Looking for data and information People moving to Photocopiers and Hard copies
Un-utilized People	Employees not leveraged to their own potential	<ul style="list-style-type: none"> Limited authority and responsibility Person put on a wrong job

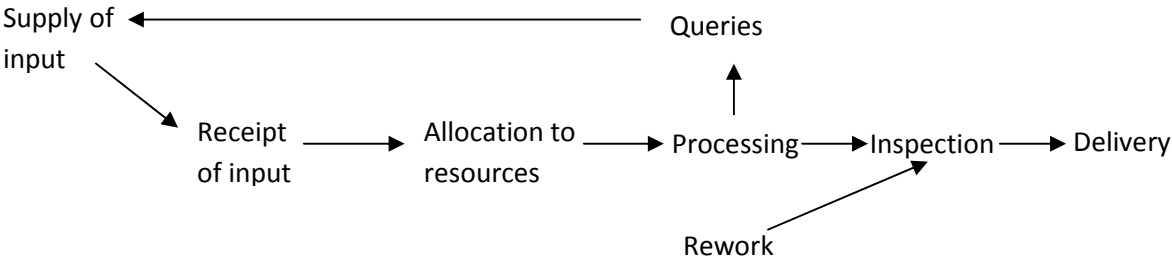
Wastes in manufacturing industry

Type of waste	Description of waste	Examples
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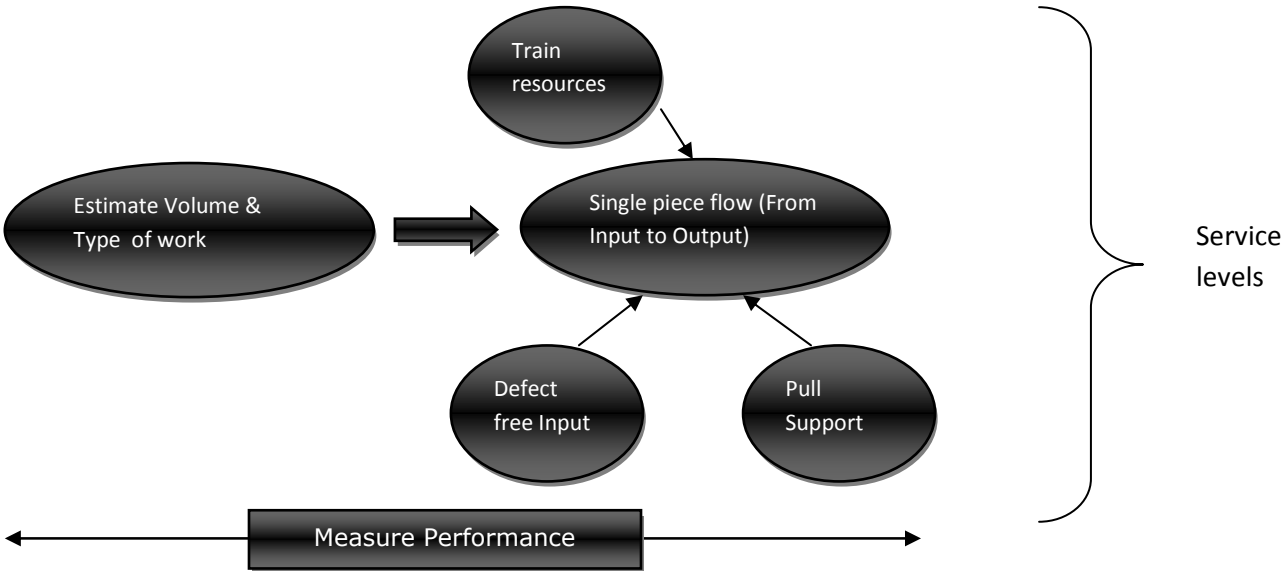
Over-production	Early processing Processing more than required	Manufacturing a part earlier than required by the next process
Defects	Errors, mistakes and rework	Products manufactured are not meeting design/customer specifications
Inventory	Possessing information/data more than required	Holding raw materials considering price fluctuations
Over-Processing	Processing more than required wherein a simple approach would have done	Using high precision equipment when it is not required
Transportation	Movement of items more than required resulting in wasted efforts and energy and adding to cost	The distance the raw materials travel from the time they arrive at the facility to the point where it enters the production line
Waiting	Employees and customers waiting	Parts/semi finished goods waiting for next stage of the process
Motion	Movement of people that does not add value	Operator movement to obtain necessary tools required

System approach to eliminate waste

Traditional system design where the concept of value stream mapping is missing looks as below:



Based on the principles of lean, the following may be useful in systematically eliminating waste and create a value chain.

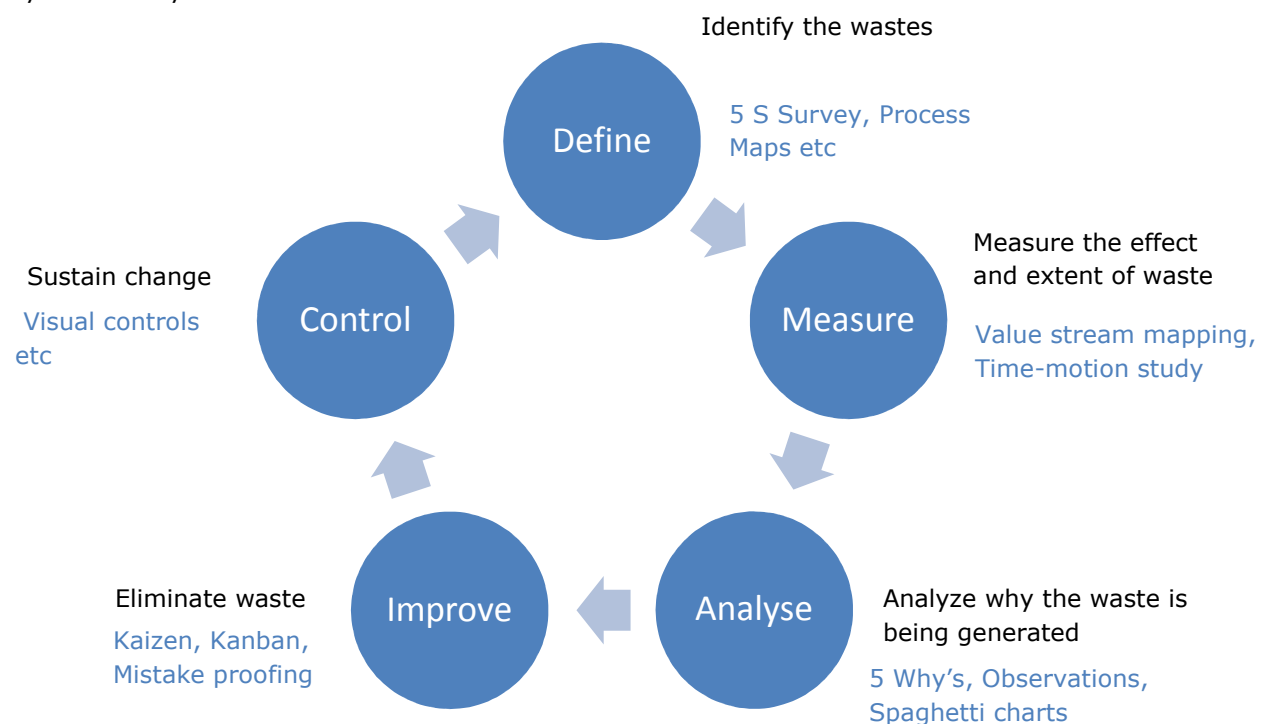


In this design, the transactional volumes are estimated and work force is recruited and trained to meet volume changes and cross skilled to ensure smooth flow in the system. All inputs entering the system are made defect free and support is pulled from the internal/external entities instantaneously. Also, it is recommended to address any unforeseen situations through service levels.

The system performance is measured at every level such as estimation error, Defective input % and support turnaround time to continually increase the performance of the system.

Lean Six Sigma

The six sigma methodologies can be used to identify and eliminate waste from the system systematically.



Define: At the define stage; the wastes can be identified based on 5 S survey scores, existing process maps or through a walk in the floor. These wastes identified should be measurable and a goal has to be set to reduce waste in the system.

Measure: The identified wastes need to be measured and base lined to understand the impact on the whole system and also to demonstrate improvement after elimination of the same. The typical wastes may be amount of rework, waiting time, inventory holdings etc.

Analyze: Analyze for the source of waste generation. This could be done through 5 Why's, Physical observations, Spaghetti charts etc.

Improve: Eliminate the waste through implementing appropriate actions. This could be achieved through Kaizen, Kanban, Mistake proofing, New value stream mapping etc.

Control: Sustaining the new value stream. Visual controls may be one of the tools which is effective at the control stage.

Conclusion

Lean approach is preferred over conventional approach in service organizations to systematically eliminate waste and thereby improving the performance. Conceptualizing and designing a Lean system at the time of migration would certainly be beneficial considering the costs and efforts involved in redesigning the system and also to increase customer perception.

(Note: Authors have not directly referred to any other existing papers/articles while writing this paper. If it matches with the views expressed in any existing articles, it is purely coincidental)