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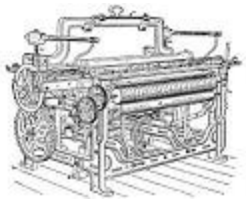
Introduction to Lean

Objectives

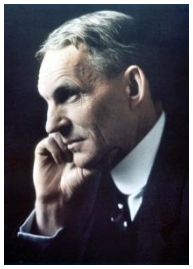
- Present the overview of history of Lean
- Understanding Lean
- Learn to identify types of waste
- Understand value analysis to improve the ‘value’ delivered
- Contribution of lean principles
- Differences of Lean and traditional strategies

History of Lean



Power loom

1890



Ford

1920

TOYOTA

Established

1930

WW II

1945

Taiichi Ohno

1950

Lean

1980

Jim Womack

1990

SAAB

AstraZeneca

VOLVO

Biocon

2000

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History of Lean

- Lean is a set of tools and techniques that can be used to change and improve a process.
- Started at Toyota in the late 1940's, also in answer to quality problems.
- Developed by Taiichi Ohno.
- Also known as Toyota Production System (TPS)
- Applied in service, transactional, government, health care and manufacturing.

What is Lean?

- Lean is a management approach, which systematically identifies and eliminate ‘waste’ in the processes.
- **Cycle Time Reduction** through Waste Elimination
- ‘Waste’ is any process step which takes organizational resources but produce no value.

‘Value’ is anything for which customer is willing to pay.

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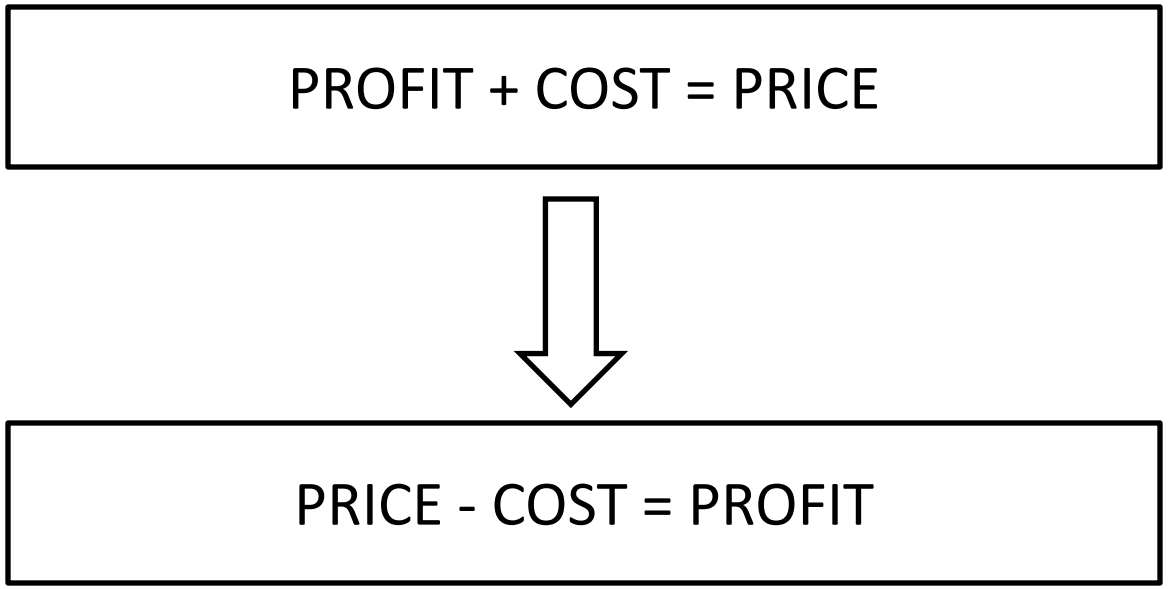
Lean Thinking



7 -Types of waste

- Defects
- Over-Production
- Transportation
- Waiting
- Inventories
- Motion
- Over-Processing

Value Analysis

- Any process can be analyzed into,

Value Adding Activity

- Transforms the information/product to value criteria.
- Done right the first time.
- Customer is willing to pay for it(Customer cares)

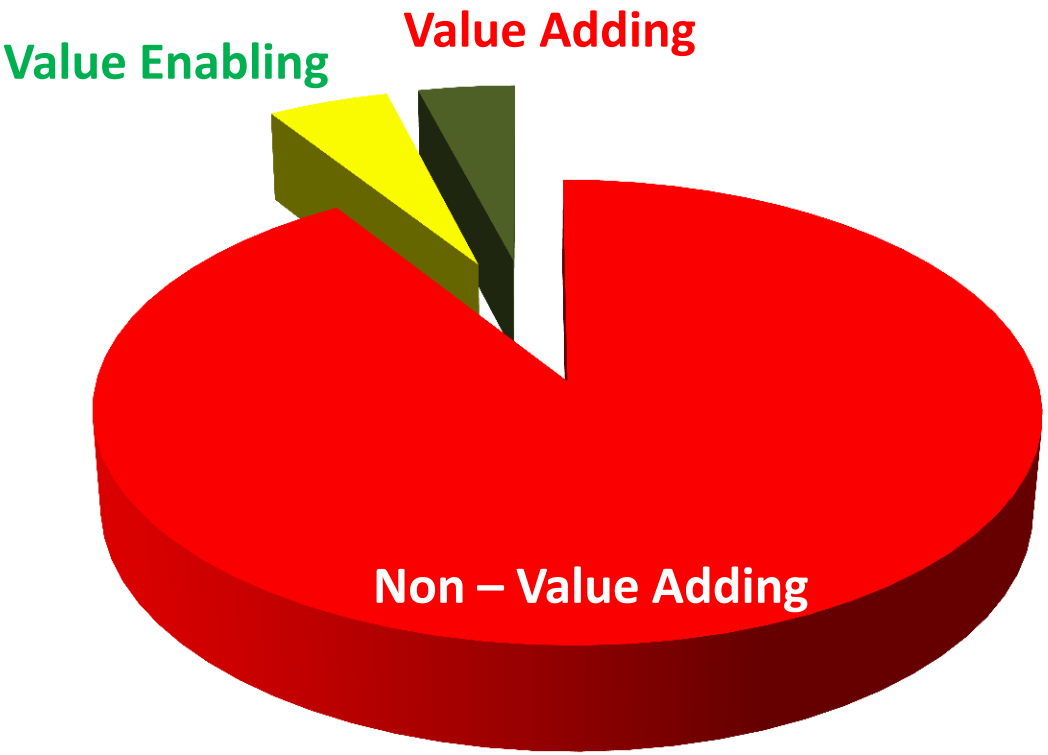
Operational Enabling Activity

- Do not add value directly but are required for statutory and regulatory compliance.

Non-Value Adding Activity

- Process/Operation that take time, resources or space, but do not add value to the product or service

What percent of total time in a process would be value adding?



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OPD- Value Analysis

Sl no	Process Step	Value Adding	Value Enabling	Non-Value Adding
1	Collect forms		1 min	
2	Enter patient details		2 min	
3	Make payment		1 min	
4	Waiting in Lounge			20-25 min
5	Consulting doctor	5 min		
6	Prescription for test		1 min	
7	Visiting lab			10 min
8	Providing sample		2 min	
9	Waiting for result			60 - 90 min
10	Waiting for doctor again			20-30 min
11	Getting prescription	3 min		
Total Time	**169**	8 min	7 min	155 min
% time		**4.73%**	**4.10%**	**91.70%**

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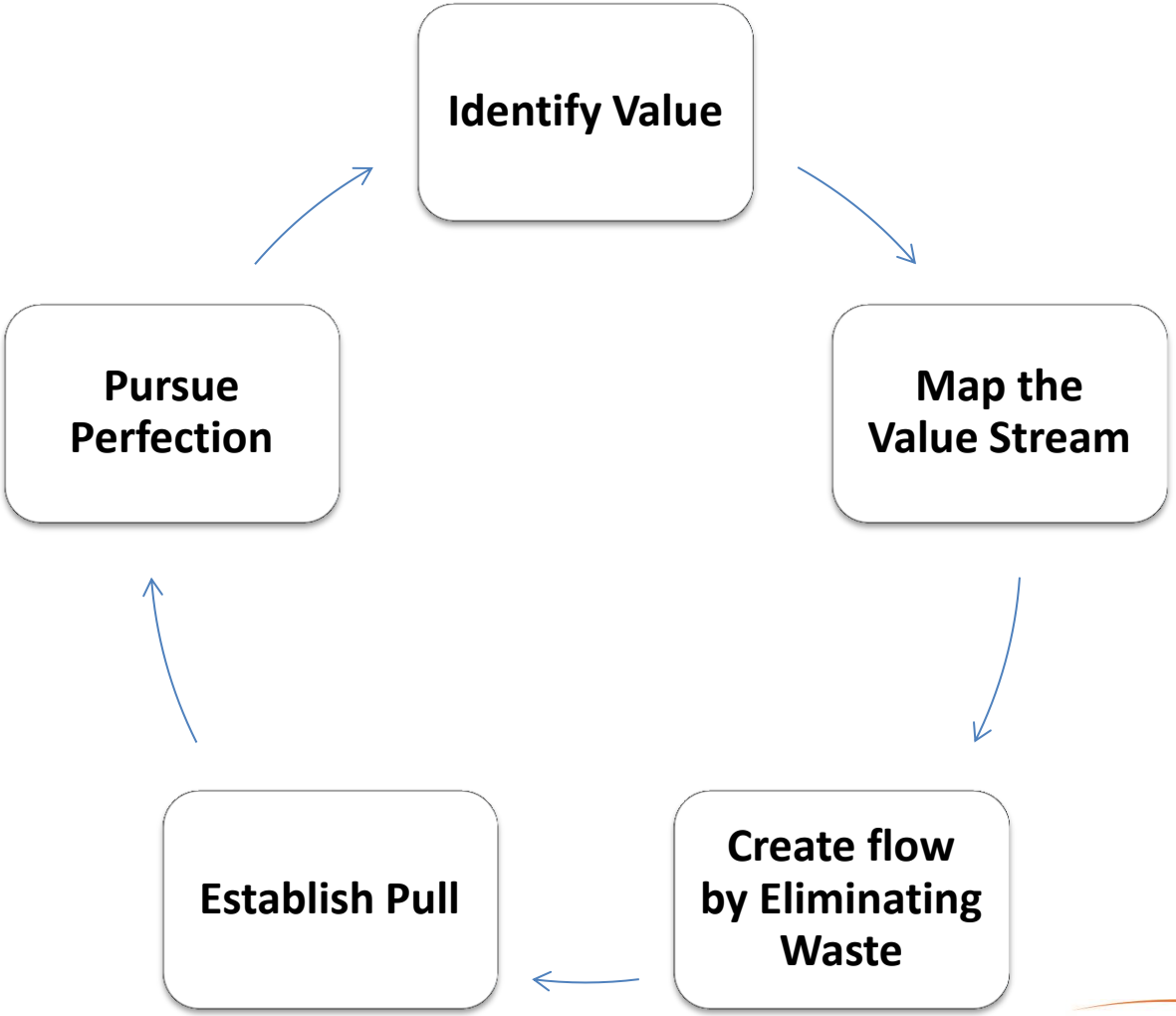
5 Lean Principles



Lean vs. Traditional Strategies

- Traditional manufacturing

- Large batches of identical parts, push to forecast
- Make activities efficient
- Plants arranged in process groups
- Develop systems to catch errors
- Carry large inventories to meet delivery requirements

- Lean manufacturing

- Small lot sizes, mixed production, pull from customer
- Make process flow
- Plant arranged according to process flow
- Work to prevent errors and eliminate waste
- Improve delivery performance by having short cycle times with minimal Work-in-process and finished goods inventory

5S


Seiri (Sort)
Seiton (Shine)
Seiso (Set in Order)
Seiketsu (Standardize)
Shitsuke (Sustain)
5 S

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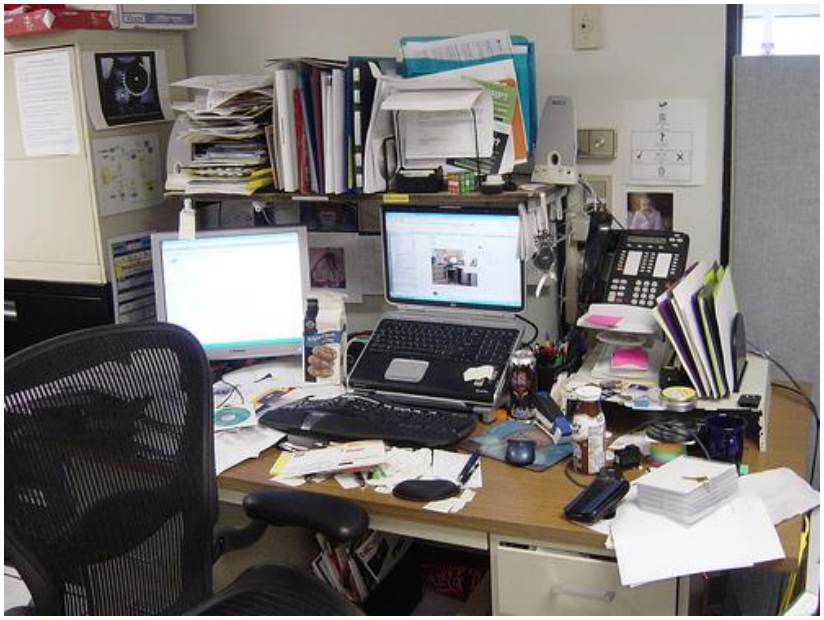
5 S - Implementation



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Summary

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