



“A STUDY ON LEAN MANAGEMENT AND ITS IMPACT ON ORGANISATIONAL PERFORMANCE”

Nagalakshmi G S
Asst.Professor
New horizon college
Kasturinagar, Bangalore

ABSTRACT

Optimum utilisation of resources and satisfying customers by providing quality products with no wastage is the main agenda of any business organisation, Lean management uses methods for eliminating factors that waste time, effort or money. This is accomplished by analysing a business process and then revising it or cutting out any steps that do not create value for customers.

Key words: Lean, kaizen, six sigma, continues improvement

Meaning of lean management

Lean management is an approach to running an organisation that supports the concept of continuous improvement. It is an ongoing effort to improve products, services, or processes, which require “incremental” improvement over time in order to increase efficiency and quality.

Features of lean management

1. Employee Involvement and Empowerment – organizing workers by forming teams and giving them training and responsibility to do many specialized tasks, for housekeeping, quality inspection, minor equipment repair and rework, allowing them time to meet to discuss problems and find ways to improve the process
2. Continuous Improvement Mindset Reduced Setup Cost and Times (for semi-versatile machinery such as big stamping presses) from months to hours thus making small lot

production economically viable, achieved by organizing procedures, using carts, and training workers to do their own setups,

3. Total quality management (TQM) and control; assigning workers, not inspectors, the responsibility to discover a defect and to immediately fix it; if the defect cannot be readily fixed, any worker can halt the entire line by pulling a cord.
4. Pull Production, or Just-In-Time (JIT) – the method wherein the quantity of work performed at each stage of the process is dictated solely by the demand for materials from the immediate next stage; thus reducing waste and lead times, and eliminating inventory holding costs
5. Continuous Equipment Maintenance – as pull production reduces inventories, equipment breakdowns must also be reduced; thus empowered operators are assigned primary responsibility for basic maintenance since they are in the best position to detect signs of malfunction
6. Multi- Skilled Workforce – as employees are empowered to do many jobs, they must be provided with adequate training
7. Supplier Involvement – the manufacturer treats its supplier as a long-term partner; they often must be trained in ways to reduce setup times, inventories, defects, machine breakdowns, etc. In order to enable them to take responsibility for delivering the best possible parts/services to the manufacturer in a timely manner.

Lean management principles are derived from the Japanese manufacturing industry and include:

1. Defining value from the standpoint of the end customer.
2. Identifying each step in a business process and eliminating those steps that do not create value.
3. Making the value-creating steps occur in tight sequence.
4. Repeating the first three steps on a continuous basis until all waste has been eliminated.

Tools used in lean management

1. 5S

Organize the work area:

- Sort (eliminate that which is not needed)

- Set In Order (organize remaining items)
- Shine (clean and inspect work area)
- Standardize (write standards for above)
- Sustain (regularly apply the standards)

2. Andon

Visual feedback system for the plant floor that indicates production status, alerts when assistance is needed, and empowers operators to stop the production process.

Acts as a real-time communication tool for the plant floor that brings immediate attention to problems as they occur – so they can be instantly addressed.

3. Bottleneck Analysis

Identify which part of the manufacturing process limits the overall throughput and improve the performance of that part of the process.

Improves throughput by strengthening the weakest link in the manufacturing process.

4. Continuous Flow

Manufacturing where work-in-process smoothly flows through production with minimal (or no) buffers between steps of the manufacturing process.

Eliminates many forms of waste (e.g. inventory, waiting time, and transport).

5. The Real Place

A philosophy that reminds us to get out of our offices and spend time on the plant floor – the place where real action occurs.

Promotes a deep and thorough understanding of real-world manufacturing issues – by first-hand observation and by talking with plant floor employees.

6. Level Scheduling

A form of production scheduling that purposely manufactures in much smaller batches by sequencing (mixing) product variants within the same process.

Reduces lead times (since each product or variant is manufactured more frequently) and inventory (since batches are smaller)

7. Policy Deployment

Align the goals of the company (Strategy), with the plans of middle management (Tactics) and the work performed on the plant floor (Action).

Ensures that progress towards strategic goals is consistent and thorough – eliminating the waste that comes from poor communication and inconsistent direction.

8. Autonomation

Design equipment to partially automate the manufacturing process (partial automation is typically much less expensive than full automation) and to automatically stop when defects are detected.

9. Just-In-Time (JIT)

Pull parts through production based on customer demand instead of pushing parts through production based on projected demand. Relies on many lean tools, such as Continuous Flow, Heijunka, Kanban, Standardized Work and Takt Time.

Highly effective in reducing inventory levels. Improves cash flow and reduces space requirements.

10. Kaizen (Continuous Improvement)

A strategy where employees work together proactively to achieve regular, incremental improvements in the manufacturing process.

11. Kanban

A method of regulating the flow of goods both within the factory and with outside suppliers and customers. Based on automatic replenishment through signal cards that indicate when more goods are needed.

Eliminates waste from inventory and overproduction. Can eliminate the need for physical inventories (instead relying on signal cards to indicate when more goods need to be ordered).

12. KPIs (Key Performance Indicators)

Metrics designed to track and encourage progress towards critical goals of the organization. Strongly promoted KPIs can be extremely powerful drivers of behavior – so it is important to carefully select KPIs that will drive desired behavior.

The best manufacturing KPIs:

- Are aligned with top-level strategic goals (thus helping to achieve those goals)
- Are effective at exposing and quantifying waste (OEE is a good example)
- Are readily influenced by plant floor employees (so they can drive results)



Top 10 companies following lean manufacturing technique

1. Nike
2. Kimberley-Clark Corporation
3. Caterpillar Inc.
4. Intel
5. Illinois Tool Works
6. Textron
7. Parker Hannifin
8. John Deere
9. Ford
10. Toyota

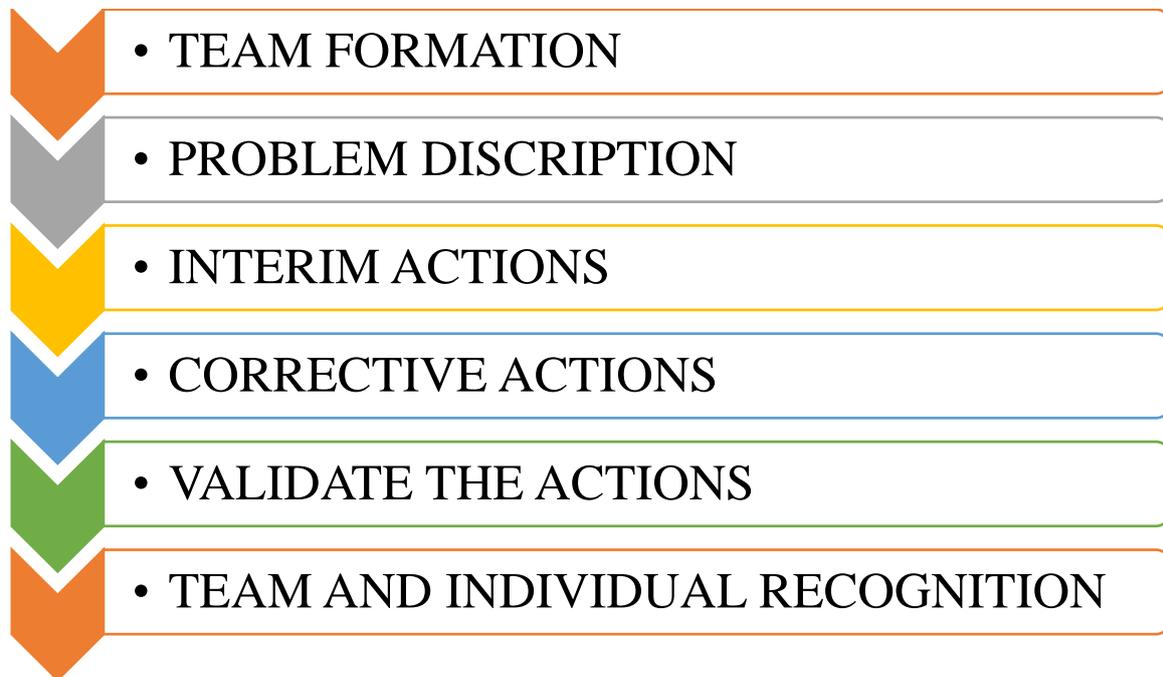
Lean Six Sigma is a powerful, proven method of improving business efficiency and effectiveness. It includes:

1. Focus on the customer.

© Associated Asia Research Foundation (AARF)

A Monthly Double-Blind Peer Reviewed Refereed Open Access International e-Journal - Included in the International Serial Directories.

2. Identify and understand how the work gets done (the value stream).
3. Manage, improve and smooth the process flow.
4. Remove Non-Value-Added steps and waste.
5. Manage by fact and reduce variation.
6. Involve and equip the people in the process.
7. Undertake improvement activity in a systematic way.



Conclusion:

Every organisation focuses on providing quality products to the customers without any wastage, lean manufacturing is a good initiative taken by many organisations in addition to corporate social responsibility, and triple bottom line, which focuses on providing safety and quality products to the customers, every manufacturer should be motivated to implement lean manufacturing in there organisation

Reference:

1. <http://www.dummies.com/careers/project-management/six-sigma/the-key-principles-of-lean-six-sigma/>
2. <http://www.sixsigmadaily.com/six-sigma-101-the-basics/>
3. Organisational behaviour – S Chand