

# Supply Chain Management<sup>Lean</sup>

## Approach Paper

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## SCENARIO BUILDING

The modern mass producing industries are not much older than a century, as its genesis came from the invention of motor car by Henry Ford in 1906. There are two concepts that made complex gadget manufacturing possible; one is the interchangeability and the second is sub-contracting of parts manufacturing. It is prudent to get the parts manufactured from vendors rather than investing on facilities to manufacture them all in-house. The business process value involved in getting those parts & raw materials made from vendors is called “In-bound Logistics”.

In the traditional manufacturing systems, the inventory and quality issues of the incoming parts were not of a serious concern as factories held a huge inventory and the re-work of incoming supplies was assumed to be a part of the value chain. In modern era however, the Lean manufacturing system wishes to get supplies Just-in-Time (JIT) as the inventory carrying cost is considered as avoidable waste (*muda* in Japanese language). Increasingly, JIT demands First Time Right (FTR) parts which do not require any re-work at the point of receipt. Often, JIT wishes to have Green Channel vendors whose parts do not require any inspection or re-work.

## THOUGHT LEADERSHIP OF SSA TECHKNOWLOGIES

The entire supply chain management policies, processes and management for a traditional manufacturing system need to be challenged while reorienting supply chain management for the Lean manufacturing system. This includes rationalising the vendor base, their location, their capabilities, vendor systems, etc.

Converting the vendors into ‘Green Channel’ vendors is not an easy task, as many of the small and medium scale industries have limited inputs for process engineering and cannot afford to hire high profile people. Due to this scenario, often the Original Equipment Manufacturers (OEM) have hardly spend time and effort in developing the systems and competencies of their vendors leading to poor quality of supplies which has to be often re-worked in their factory. The companies in Japan, particularly automobile manufacturers, have systematically developed their vendors through a vendor development program.

To fill this gap, SSA Techknowlogies has come up with a consulting package entitled as **SCM<sup>LEAN</sup>©**. Mr. NC Narayanan (NC), the Founder & CMD of SSA Group of Companies, with his four decades of experience in automobile and auto-ancillary industry has come up with several thought leaderships in the area of Lean manufacturing system such as RMAOR<sup>®</sup> framework for Lean factory design. **SCM<sup>LEAN</sup>©** is one of those thought leaderships of NC that fills the gap in developing green channel vendors for mass-producing industries. **SCM<sup>Lean</sup>** is a holistic approach that will challenge all the Supply Chain Management systems, re-engineer them to improve their value chain to suit Lean manufacturing system.

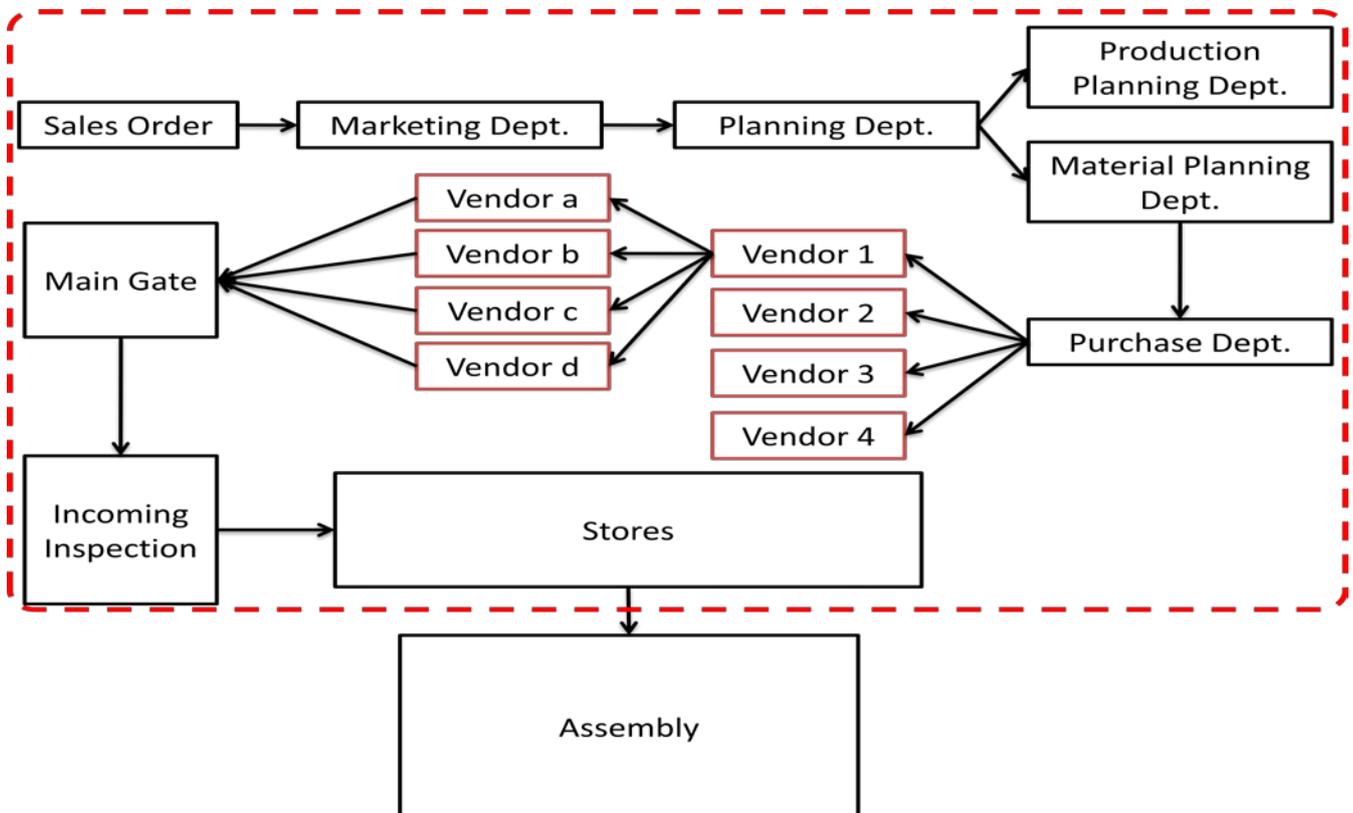
## WHAT IS SCM<sup>Lean</sup>®?

SCM<sup>Lean</sup> is a holistic approach of studying the current inbound logistics of the company through extended value stream mapping and identifying waste variation and over processing and systematically eliminating by restructuring the inbound logistics systems.

## The objectives of SCM<sup>LEAN</sup>®

- Just-in-Time incoming supplies
- Material cost savings
- Reduced incoming inventory levels
- Elimination of obsolete stocks and parts
- Zero defect supplies from vendors
- Nil rework and segregation of incoming parts

## TRADITIONAL APPROACH



The above diagram illustrates the typical flow of information across various departments within a manufacturing company for production. Many organizations are on the road to implement

LEAN manufacturing practices to avoid wastages, NVAs, optimum utilization of resources and thereby considerably reduce the overall lead time of the product development process. Just-in-Time (JIT) is a production strategy that strives to improve a business's return on investment by reducing in-process inventory and the associated carrying costs. JIT requires LEAN incoming of material. But if we evaluate the current situations in the business, one can analyze that the current practices followed are very loosely-wired without effective control measures. Further, the implementation of LEAN & JIT practices will challenge and make it tough to manage the entire vendor driven supplies. The traditional system thus has given very less importance to the vendors.

## **Prognosis**

The major problems faced in the existing structure:

1. There is always an inward inspection of the parts received from the vendors
2. If the parts are found defective, then rework has to be carried out
3. The products are not First-Time-Right
4. There are delivery issues which further lead to bottlenecks for later activities
5. Huge inventory stacks up which defeats the very purpose of JIT and LEAN.

## **SCM<sup>LEAN</sup>® APPROACH**

The following illustrates the SSA's SCM<sup>Lean</sup>® approach:

1. Study the current extended Value Stream Mapping to identify opportunities for improvements.
2. Study vendor base and their logistics and draw a plan for reciting them
3. Rationalize vendors, identify critical component manufacturing and hand-hold them as follows:
  - a. Understand the Critical-to-Quality requirements
  - b. Design the Manufacturing Quality layout
  - c. Conduct a process capability study of the process using Statistical Process Control (SPC) methods.
  - d. Identify the gaps in the skill-sets, tooling, conduct a Measurement System Analysis (MSA), storing practices, internal controls, raw material quality, etc.
  - e. Train the responsible stakeholders and implementation with an assurance of the Cpk value of above 1.
  - f. Demonstrate Green Channel Vendor development
  - g. Design and implement suitable Vendor Evaluation System.

## BENEFITS TO THE VENDOR

- Increase the throughput
- Less rejection and rework
- Faster payment cycle
- More competent operators
- Better utilisation of resources

## BENEFITS TO THE COMPANY

- Reduction in cost of Supply Chain Management
- JIT supplies to suit Lean manufacturing system

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