Lean Manufacturing - Implementation Guide

Lean Manufacturing – where to begin

Almost everyone in manufacturing has heard about lean manufacturing. Most large corporations are in various stages of implementation. Many companies are currently applying the principles and building a lean foundation. Others are sustaining the implementation and continuously improving on the foundation. There are also many corporations wondering what went wrong or why they haven't obtained the results they hoped for.

The primary key for success with lean is to understand that it is a journey. There is no "silver bullet" in any manufacturing or service industry. If there were, it would be sold and every company would have it.

Lean begins with the top management of the enterprise. Top management must have the vision to understand both the requirements and expected results, and commit the resources to achieving them. If the expected requirements and resources do not match the results, any system such as lean manufacturing will fail.

The requirements depend on the business. If the business has 5000 employees spread across 15 facilities in 20 different states, the requirements will be large. A small facility with 100 employees will require less.

Management needs to understand that lean manufacturing is a journey. It is a system of applied principles that leads the enterprise to a state of "lean". If management is expecting to achieve "headcount reduction", they are choosing the wrong system. Any headcount reduction should take place prior to implementing lean manufacturing.

Lean systems involve everyone in the enterprise to work diligently to remove all muda (waste) in the system. There are eight common types of waste defined in lean manufacturing. These wastes are so pervasive in organizations that everyone must pursue and eliminate them. People simply are not going to work themselves out of a job, and therefore everyone must be supportive of the journey.

Lean also involves continuous improvement through "kaizen". Kaizen in Japanese means "small incremental improvement". Kaizens involve employees from all functions to work together to eliminate waste, improve productivity, and improve the business in all aspects. Again, management must have employees empowered to improve the operation.

One piece flow is another system utilized in lean manufacturing. Therefore SMED (single minute exchange of die) systems to reduce changeover times must be employed.

Other lean concepts utilized in the journey include "pull systems", "cellular manufacturing", "kanban", OEE (overall equipment effectiveness), TPM (total productive maintenance), error proofing, root cause elimination, and many others.

All of these systems require the effort of a large mass of employees to be successful. Therefore, employees must not be fearful of losing a job or lean manufacturing will not succeed.

Once employees feel they can trust management, the lean journey can begin. The journey begins with training and it never stops.

Lean manufacturing is not a system that can be administered or implemented by a few individuals. It can be led by a few individuals, but the implementation will involve everyone.

Every person in the organization should first know why the company is implementing lean manufacturing. Is it to have a competitive advantage? Is it to stay in business?

Since employees have always thought of management as "cost cutters", it should be explained that costs are expected to come down in the long run. It should be explained why that is necessary, and what it will mean for the business. Lower costs enable the company to sell product or service. It might preserve existing jobs and lead to more hiring.

Once the overall goals of the company are explained, training should begin with the basics.

This will include an overview of lean manufacturing, 5S, 8 wastes (muda), problem solving techniques, and simple value stream mapping.

After that, individual concepts should be explained which apply to the company. For example, companies with machinery will be implement SMED kanban, OEE, and TPM. Companies carrying inventory will want all employees to understand the waste involved in it.

Almost every company will begin with some type of “review” process. This review process will provide the “gap” analysis between where the company is in terms of lean versus where it wants to be. For example, setup times might average 12 minutes but need to be done in 3. Or cycle time might be 18 hours and it should be 6.

Once the analysis is completed, the training and implementation begins. Most companies begin training with 5S (workplace organization). Most implementations also begin with 5S while value stream mapping is often done simultaneously. As with all lean concepts, 5S, value stream mapping, and the review process never end.

Once these are implemented, the journey begins. Lean concepts are the arsenal to move the company to a state of lean. The lean leader utilizes the tools necessary to improve each part of the organization. Most often, many of the tools are utilized in every area.

When implemented correctly, lean is contagious. People in all functions from the plant or office floor to the executive suite are constantly looking for waste and non value adding activities. When they find them, they do everything possible to eliminate it forever.

For those companies beginning their lean journey, a free lean manufacturing training primer exists at www.1stcourses.com.

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