

Lean Manufacturing Process

Laurent Ana*

Department of Industrial Engineering and Management, Centre for Management Studies, Spain

Introduction

Lean manufacturing can assist businesses in gaining a competitive edge. The basic concept is to increase customer value while reducing waste and maintaining productivity. Lean isn't just a technology, a management method, or a software package. Lean is all about designing and implementing processes that are extremely responsive to client demand. Lean paves the path for the timely and cost-effective delivery of high-quality products and services to the right location at the right time. The new procedures should ideally optimize all components of the value chain so that you can accomplish more with less-labor, capital, and time. The five essential concepts of Lean Thinking give a foundation for establishing an efficient organization: Specify End-user customer perspective on value, Determine the Value Stream - the activities that add value, Flow-allow value to flow, respond to customer demand with a pull strategy, Zero-waste perfection. Lean rules provide direction for improvement by clarifying the usage of the tools.

Description

These principles assist structure activities, link consumers and suppliers, specify and streamline flow patterns, and improve via experimentation for everyone in a company.

The four basic rules of Lean for providing value can be described as follows:

- Specify all work in terms of substance, chronology, time, and outcome.
- Customer-supplier links must be straight and explicit, according to the Connection Rule.
- The Pathway Rule states that product/service paths must be straightforward and direct.
- Improvement Rule - Under the supervision of a teacher, improvements are produced using the scientific method (PDCA) at the place of action (Gemba) (Sensei)

These ideas form the foundation of a Lean manufacturing system. They enable businesses to achieve peak efficiency, allowing everyone to contribute at or near their full ability. When all of the pieces are put together, the total is far greater than the sum of its parts. In most cases, Lean can provide the following benefits to manufacturing companies: Product quality that is higher, with fewer flaws and rework, Inventory levels are lower, Stock turnover rates are higher, Equipment and process malfunctions are less common, Increased output, Better delivery results, Profits increase, Customers who are happier, Vendor ties have been improved and strengthened, Employees that are more

engaged. All these advantages are considerably more important in a pandemic with severe manufacturing interruptions [1-3].

Many firms throughout the world were obliged to cut costs and become more responsive to client requests when the recession hit at the turn of the twenty-first century. Industry has long viewed Lean Manufacturing (LM) as a solution to these problems since it lowers waste without requiring extra resources. This sparked an explosion of LM research around the world, primarily through empirical and exploratory investigations, resulting in a profusion of LM definitions with varying scopes, objectives, performance indicators, tools/techniques/methodologies, and concepts/elements. There are numerous LM definitions available, each with its own set of goals and scope. The goal of LM research has been to verify theories through empirical and exploratory studies. Although LM research has mostly focused on the automotive industry, it has also been used by other industries. The simultaneous adoption of leanness across the supply chain is one of the major implementation components of LM. LM has evolved into an integrated system with many interconnected aspects and management approaches. There is no common procedure or framework for LM implementation [4,5].

Conclusion

To attain this perfection, a value-adding process is required; as a result, building a lean manufacturing system has become a basic capability for any sort of firm. Only a few studies focus on more than one aspect of lean elements, but for successful lean implementation, the organization must focus on all aspects such as Value Stream Mapping (VSM), Cellular Manufacturing (CM), U-line system, Line Balancing, Inventory control, Single Minute Exchange of Dies (SMED), Pull System, Kanban, Production Levelling, and so on

References

1. Melton, Trish. "The benefits of lean manufacturing: What lean thinking has to offer the process industries." *Chem Eng Res Des* 83 (2005): 662-673.
2. Sundar, R., A.N. Balaji, and R.M. Satheesh Kumar. "A review on lean manufacturing implementation techniques." *Procedia Eng* 97 (2014): 1875-1885.
3. Rahani, A.R., and Muhammad Al-Ashraf. "Production flow analysis through value stream mapping: A lean manufacturing process case study." *Procedia Eng* 41 (2012): 1727-1734.
4. Rohani, Jafri Mohd, and Seyed Mojib Zahraee. "Production line analysis via value stream mapping: A lean manufacturing process of color industry." *Procedia Manufact* 2 (2015): 6-10.
5. Wahab, Amelia Natasya Abdul, Muriati Mukhtar, and Riza Sulaiman. "A conceptual model of lean manufacturing dimensions." *Procedia Techn* 11 (2013): 1292-1298.

*Address for Correspondence: Laurent Ana, Department of Industrial Engineering and Management, Centre for Management Studies, Spain; E-mail:laurentana@gmail.com

Copyright: © 2022 Ana L. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Received: 05-April-2022, Manuscript No: iem-22-66178; Editor assigned: 07-April -2022, PreQC No. P-66178; Reviewed: 12-April-2022, QC No. Q-66178; Revised: 18-April-2022, Manuscript No. R-66178; Published: 23-April -2022, DOI: 10.37421/2169-0316.22.11.347.

How to cite this article: Ana, Laurent. "Lean Manufacturing Process." *J Ind Eng Manag* 11 (2022): 347.