LEAN CONCEPTS FOR PRODUCTIVITY IMPROVEMENT

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Abstract

This paper is focus to discuss the application of lean concepts in the whole organization to improve productivity. The supreme objective was to deliver quality service and the product by eliminating waste, to pursue these objects the lean concept is to focus to get rid of waste along whole value streams instead of traditional business system processes which focus on scarcity of place, capital, and human efforts.

Introduction

Lean concepts may be defined as an organized approach to recognize as well as get rid of waste via continual enhancement., In Lean production use of everything in very less in comparison with mass production in, the production space, the financial investment in devices, design hours to develop a new item and human initiative in the factory. The perception of lean generally begins in the middle of the eighteenth century. Henry Ford implemented the "Lean" approach within his business projects. Within the 1970 lean concept became normal in industries external to Toyota. The Lean concentrated upon quality until 1990, and after 2000, customer value becomes the main focus. [1,2]

Principles of Lean

Lean as a system makes it possible for organizations lower their prices by removing waste to enhance its quality and degree of satisfaction of customers. .

Lean Principles are known as Identify Value, Value stream mapping, Create Flow, Establish Pull and Perfection [3]. Lean principles are shown in Fig1.

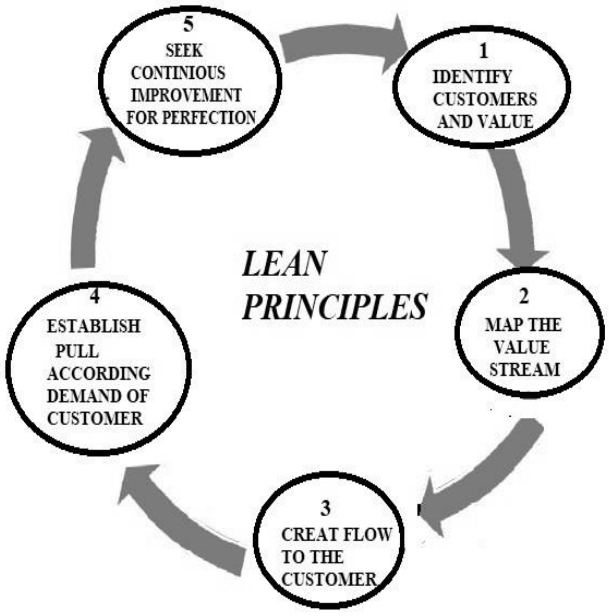

Fig: 1

The Lean concepts in the manufacturing organization can lower the functional price in production by removing the waste in the process, boosting the greater productivity in the implementation process. There are numerous crucial lean concepts that require to be recognized in order to implement lean. Among one of the most vital concepts of lean production is the eradication of waste (referred to as MUDA in the Toyota Manufacturing System). Types of wastes given in Fig 2. Motion, Inventory, Production of Defects, Waiting, Transportation, Over processing are standard kinds of waste in manufacturing. [4,5].

Fig:2

A mutual objective in between suppliers and manufacturers to minimize waste as well as reduce expense is critical for lean manufacturing.[6]

Companies make inventories to continual distributions and also get rid of troubles such as need irregularities, undependable shipments from supplier, as well as discontinuity in the manufacturing process. Nonetheless, there is a requirement to keep stocks at the minimum degree since excess supplies would certainly need better areas and also lead to greater bring expenses. In addition, they build up the danger of items coming to be Out of date. Excess stocks are viewed as wickedness, since they conceal issues such as flaws, manufacturing imbalance.[7]

Consumers choose what to purchase, as well as when and also exactly how they will buy an item. Considering that worth of a product identified by the clients, so it is necessary to establish a good relationship with them. Establishing a great relation with consumers will allow a company to recognize and also fulfill their demands and also forecast their needs, as it is essential to acquire the best match in between market demands and production flows.[8]

Peoples should treat as the assets because they are the crucial element in lean manufacturing. [9]

Tools and Techniques

Tools and Techniques which are engaged in Lean Manufacturing are given below

1. To improve quality, Quality control Tools such as Pareto Chart, Histogram, Fish Born Diagram, Scatter Diagram, Control charts.
2. Kanban.
3. Kaizen.
4. Five Tools which known as 5S theses are Seri (Sort), Seiketsu (standardize), Seiton (Straighten), Seiso (Shine), and Shitsuke (Sustain).
5. Just in time.

Lean tools are shown in Fig 3

Pull techniques like Kanban, as well as Lot size reduction are frequently utilized to lower storage space and inventories. Proper scheduling methods have the ability to enhance the proper use of resources.[10]

The kaizen is a technique for continuous improvement to lower defects, eliminate waste, enhance productivity.
Just in time (JIT) is a technique intended mainly at minimizing the time within a manufacturing system along with response times from suppliers and to consumers.[11]

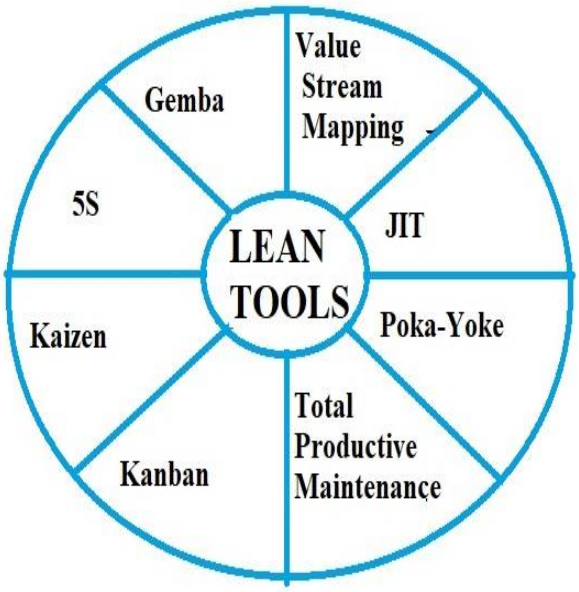

Fig:3

Advantages
The Benefits of the lean system in the industry are Reduction of manufacturing cost and other Overheads., Effective plant layout. Waste Elimination, advancement in the Productivity from the existing level, Lower the risk of Late delivery as well as High quality will certainly be improved [12].

Conclusion
Lean manufacturing is a multifaceted method to solve issues that might occur in the work area. It mostly intends to totally remove or partly decrease the 8 significant resources of waste. There is always space for enhancement in manufacturing and related fields. And the customer needs good quality at competitive cost. It is vital for top administration to comprehend and also offer enough assistance to maintain the lean principle. Proof reveals that the monitoring assistance plays a crucial function in driving lean production application. Interaction in between senior supervisors and also staff members is important to make certain that the vision and also the objective of lean production is achievable

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