Reduction of Inventory in Manufacturing of Fuel Injection Components Using Lean Concepts

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Abstract:

In present industry scenario, inventory in any business is a very serious area to be focused. If companies are able to reduce their inventory cost, it would allow them to respond quickly to the market changes and hence remain competitive in the market. Inventory in the company constitutes the most important part of the assets. This project has concentrated on managing the inventory by implementing Lean concepts. The reason to focus on inventory management was that, it helps to manage stock adequately for the production to run smoothly. Thus, the objective of inventory management taken here was to determine the optimum level of inventory by looking into various Inventory Management Techniques which benefit the organisation.

Thorough literature review was done to understand the concepts of inventory management technique which could be implemented through lean concepts. Review on inventory optimisation, optimisation techniques, Milk Run Logistics etc., which allow us to keep minimum inventory in the pipeline so as to face the ever changing customer demand which enables to change over to their needs from immediate effect. Different control methods like ABC analysis of the material and ordering the material in the company by EOQ method were chosen to solve the problem identified in the company.

Inventory waste finding checklist and transportation/movement waste finding checklist was suggested for improvements.

After adopting the techniques, the results obtained were impressive. Inventory in the company reduced by 46% and the storage space reduced by 75% indirectly. The process of inventory taking reduced from days (1.5 Days) to few hours (6 Hours). Payments to suppliers which used to take long duration, became smoother due to fewer inventories (Reconciliation of Inventory). Cash Flow in the company improved because of fewer inventories. Operator fatigue also reduced as changes were made in storage of raw material area (cell).