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Application of Lean Tools In Industries For Wastage Reduction

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Abstract : Major businesses in the India have been trying to adopt new business initiatives in order to stay alive in the competitive market place. Lean manufacturing is one of these initiatives that reduce waste and focus on cost reduction by eliminating non-value added activities. The lean manufacturing concept was originally employed by Toyota manufacturing company so as to reduce wastages in the manufacturing industries. Subsequently the techniques attracted the attention of worldwide manufacturing companies as it was considered to be one of the best approaches in reduction of wastage thereby increasing productivity. Vast amount of work has been carried out by researchers and manufacturers it is proven as one of the promising methodologies in arriving at the waste reduction in manufacturing process as it makes use of many cost reduction techniques, work study, maintenance of plants, reduction in transport and other such techniques. Presently this particular technique has been extensively used throughout the world as it is found to be instrumental in increasing the productivity levels as it always aims reduction of wastages, increased labour productivity, material productivity and decreases the down time of machine by implementing effective maintenance. This application of lean tools has become so popular though apart from manufacturing industries even service industries started using these techniques advantageously throughout the world. The objective of this work is to implement and evaluate the usefulness of LEAN manufacturing tools practices in a large-scale industrial setting. In particular , with regard to continuous manufacturing industry like ductile iron pipe industry, the goal is to understand the effect of application of LEAN MANUFACTURING TOOLS in reducing the identified waste in organization.

The major contribution of the present work is to draw the following conclusions

- Results achieved are quite encouraging in terms of motivated employees and increase in Overall OEE %-**No. of kaizens /small improvements increased from 20 No/month to 50 No/month and OEE % of individual casting machine increased from 25 to 40%.** This has been made possible because of the implementation of lean tools for first time in the company.
- Productivity for SDP machines increased from - **20 Pipes/Hr to 30 pipes/Hr**

- Results showed that the firm managed to eliminate wasteful & non value added activities by reducing the Die change over time (Setup time) for Die change activity-**Reduced from 90 Min to 60 Min**
- Efficient work place utilization at cold zone area & reduced time for searching spare parts/tools