Reduction of Lead Time in Electrical Panel Manufacturing Projects

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Abstract:

In today's competitive industrial scenario, manufacturing firms should focus on lead time reduction and lower inventory levels. To perform well in global market, shorter lead time and quality are the key drivers. In the present study, the implementation of Lean and project management techniques have been used to reduce the lead time in manufacturing electrical interfacing panels.

In this project reducing the lead time by 20% was considered as the target. The manufacturing lead time study was carried out by activity duration study. Planned and actual delivery dates of 5 projects were collected from September to December 2012. Root cause analysis was performed to identify the factors contributing for higher lead time. QC tools like activity duration chart, Pareto analysis, interrelationship diagram and Why-Why analysis were used. From the analysis it was identified that lack of inventory management, electrical wiring and ferruling work were the major contributors. To attack this issue, new store was put up, ferrule printing machine was installed and individual electrical tool kits were provided. The improvements were monitored for 3 similar projects and data was collected for quantifying the benefits.

As a result, the lead time for purchase and inventory reduced from 6 days to 4 days. Lead time for arranging components in mounting plates reduced from 2 days to 1 day, subsequently lead time for electrical wiring and assembly activity was reduced by 2 days. Overall lead time for projects was reduced by 27% cumulatively.

Pareto analysis of critical path

Master summary report

Reduction in average project duration