Productivity Improvement in Exotic Delivery Valve Line through Process Reengineering

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Abstract:

This project was carried out in delivery valve-exotic line for improving productivity through process re-engineering. Replacing the lapping process with an alternate process and thereby improving first pass yield and hence productivity was the scope of the project. The reason for choosing this project was to reduce the operating cost incurred by lapping and to sustain the product quality. Process re-engineering simplified the process to fetch the lean line. Hence, eliminating the hazardous and obsolete lapping process was the main motive of the project to achieve a competitive edge. This project was taken in a delivery valve section of Bosch Ltd. Project was electrified by the organisation's innovation principle and activated by Bosch's vision and mission.

Need for the project was identified with the aid of current state study in the line. First pass yield data and operating cost contribution were collected from the process. Using Lean technique, current state and future state value stream were designed and MUDA in the line were identified. An alternate process for lapping was explored by survey. Bosch global net has directed to opt for one of them. Financial feasibility for the proposed alternate process was conducted by employing the cost benefit analysis tools. Initial trials were conducted in the organisation. Functional and parametric studies are validated by process capability and trial orders. Standardisation methodology was employed for regularising the documents. The whole activity carried out was based on the principles of process re-engineering.

After completion of the project and based on the results, following conclusions are drawn. Operating cost was reduced by replacing the lapping process. First pass yield of 25% in the line was increased. Process re-engineering made the line lean by removing all MUDA. Process has turned out to be environmental friendly and human safety norms were achieved. Overall, competitive edge was attained by the organisation by employing the process re-engineering and lean concepts.

Reengineering and Lean concepts

First pass yield