Process Re-engineering to Reduce Throughput Time in Bus Body Building

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Abstract:

Competition between bus makers in Indian Bus market is intense on introduction of new buses by competitors. Customers are going to competitors, if Volvo India delivery time is longer. This situation is a challenge to Volvo India to deliver buses quicker and to bridge the gap in “Demand-Supply”. This has given the lead to Volvo India to explore through this project, which was assigned to reduce time of delivery by focusing on “Process Re-engineering” in bus body building throughput time. The impact of results will be on “Delivery time to customer” and “Cost savings”.

In this project, bus model “B9R” was taken up for “Throughput time” (TPT) reduction. It is important to note that this bus model has a higher demand among customers and a dominant player in volumes for Volvo Bus India for 2012. The main objective was to reduce the prevailing throughput time of 25 days to 10 days per bus. The objective needs to be achieved by suggesting appropriate process modifications, implementing new fixtures if need be at extra cost, but goal is TPT reduction. The scope covers from ‘Station no 1’ to “GOK Station No:24” of bus body production line which includes bifurcating non-value added activity which is considered “non-core” and removed to offline and retain only the “core” activity in the main line. The NVA conclusion is based on principle of lean methodology combined with seven wastes philosophy and complimented with VSM to attain the objectives.

The key result of the project is that, the bus body building throughput time of B9R model has been reduced from 25 days to 11.5 days per bus. This means an overall reduction of 13.5 days or in other words 54% reduction. In a nutshell, by adopting process re-engineering methods and leveraging on seven wastes, the non-value adding activities have been removed from the mainline, finally leading to a reduction in throughput time at the bus body building facility.

Principle of lean methodology
Seven wastes in manufacturing

Reduction in throughput time