INVENTORY OPTIMISATION - JAKSON LTD.

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This project aims to optimise inventory and sales at the Jakson Daman DTA DG Assembly Plant using the Six Sigma approach. The Six Sigma methodology encompassing the steps: Define, Measure, Analyse, Improve, and Control will be followed in order to achieve the objective.

DEFINE

Key Problem Areas: The key issue highlighted by Jakson was that there was a pile up of inventory at their DTA plant at Daman. The second problem in the inventory was that when engines are available, alternators are not available and vice versa.

Project Scope: The scope of this project was limited to the shipments from Jakson DTA Daman plant, only considering 30 KVA to 625 KVA G Drive Engine ratings.

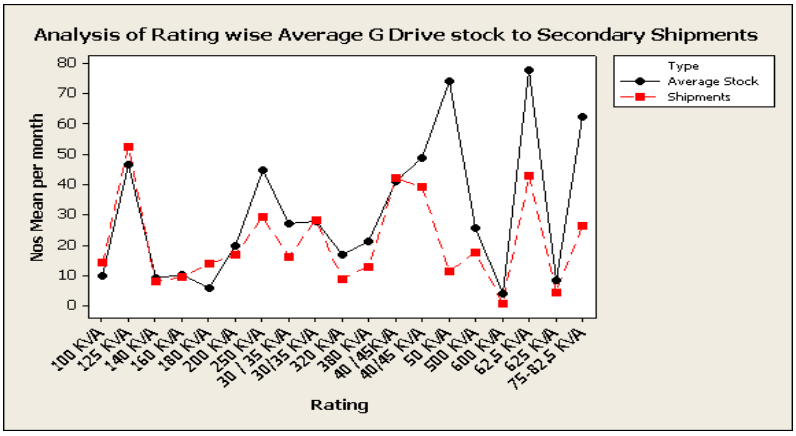
Impact on Stakeholders: This project would result in consistent order inflow from Jakson without creating inventory levels at their plant. For end users, this might improve the speed of roll outs of DG sets from their plant.

MEASURE

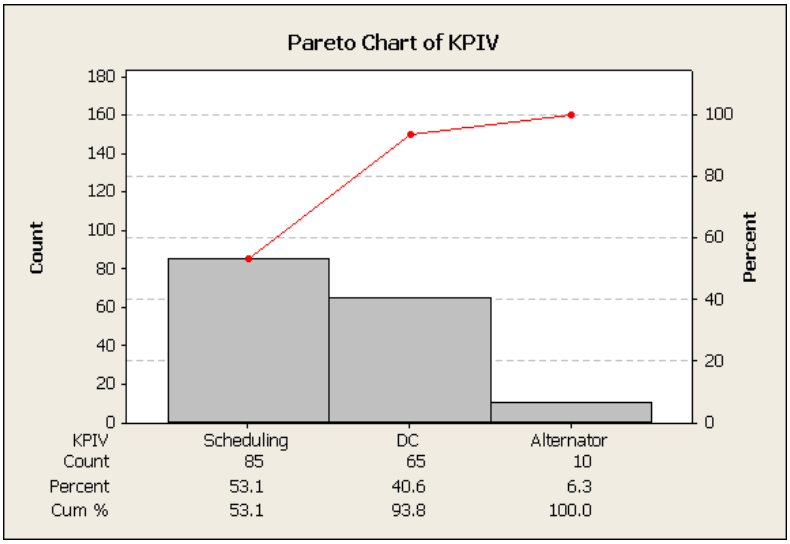
First, 22 the KPIVs (Key Process Input Variables) were identified using a process map, and then a Cause & Effect Matrix was used to narrow down to 12 KPIVs. A Failure Modes and Effects Analysis (FMEA) was then used to achieve a screened list of 3 KPIVs. These 3 KPIVs were:

- Alternator Schedule
- Engine Schedule
- Dispatch Clearances

ANALYSIS



The graph illustrates the average stock and shipments for different G Drive Engine ratings. The strategy was to create optimal stock levels and maximise shipments.



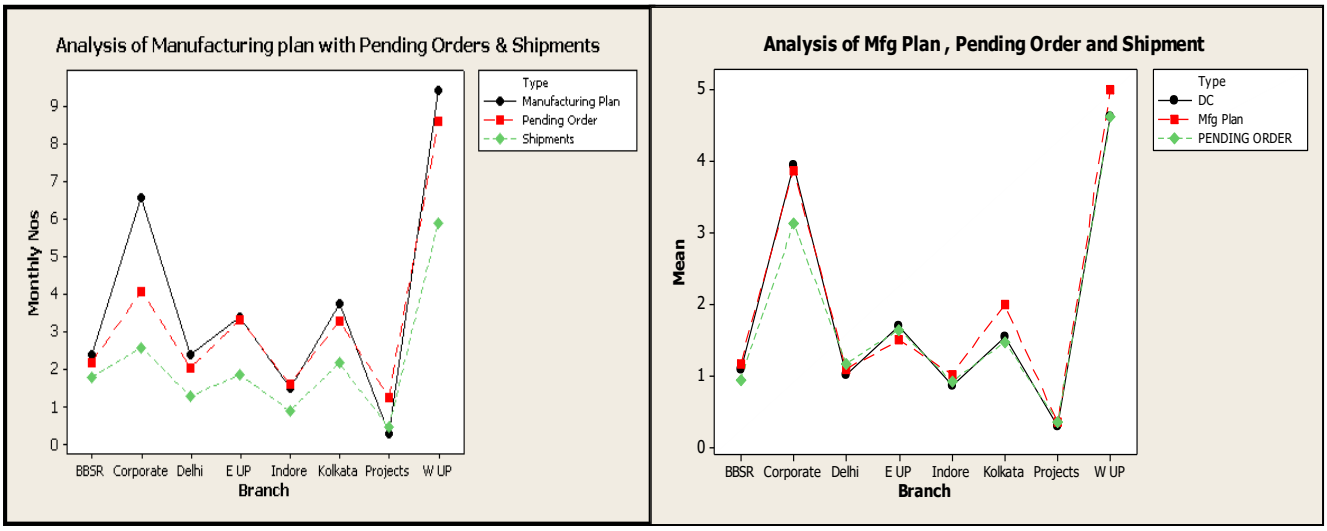
Through the Pareto Chart, We identified that out of the 3 KPIVs, Engine Scheduling and Dispatch Clearance were the most significant contributors to high Inventory to Shipment Ratios. Alternators were also taken forward as a contributor in inventory.

The KPIVs were then analysed and, as a result, an improvement plan was defined:

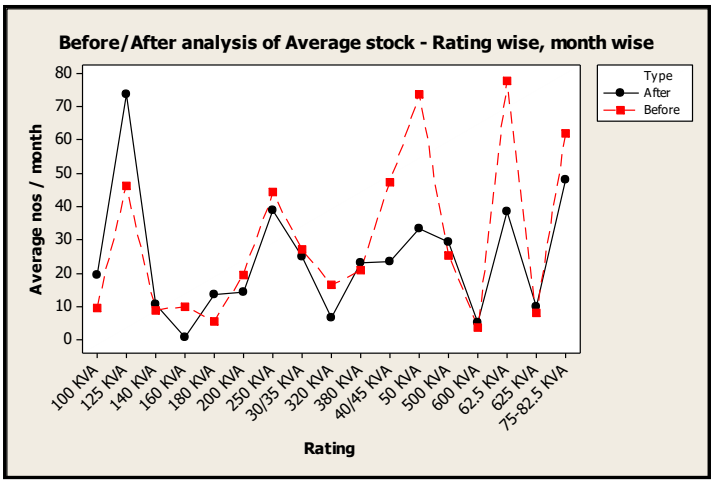
- Monthly tracking of slow moving and non-moving ratings from the manufacturing plant. One dedicated person for reporting the ratings.
- Monthly meeting with suppliers for tracking alternator availability
- Monthly branch reporting on Manufacturing plan and Direct Clearance to Head Office
- Implement Direct Clearance Management process to all branches

IMPROVE

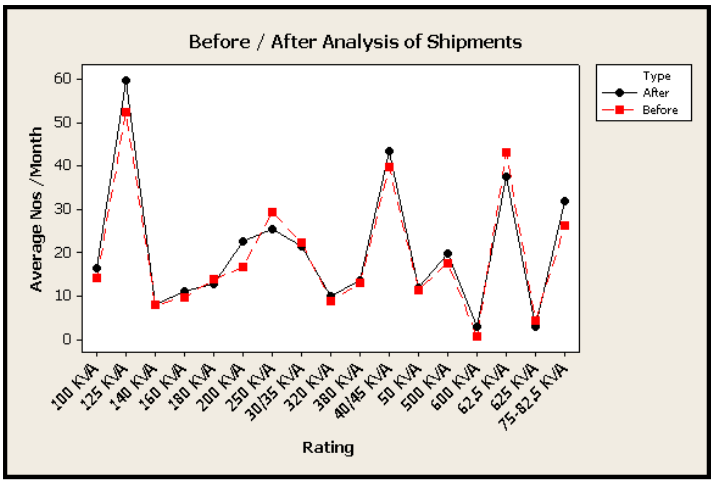
In the improve phase, an improvement matrix was prepared with action plans linked to KPIVs and responsibilities assigned to team members.



The analysis of manufacturing plan clearly shows that following the improvements in the manufacturing plan, the branch forecast became inline with pending orders.



A before-after analysis of the average stock level shows that average stock levels have been greatly reduced.



A before-after analysis of the shipments shows that the average monthly shipments have been maintained.

CONTROL

The Final Capability of the improvement was the the Stock to Sales Ratio came down from 2.19 to 1.1