

Introduction

Companies today face lot of challenges in today's market with increase in product mix and volume, rising customer expectation, stiff competition and reduced margin. On top of that, there are some complex production operations. The need of the hour is a robust solution which will help companies to

- Make planning decisions to allocate constrained material and capacity to high priority customers
- Provide due date commits to customers on when products can be delivered
- Optimize on sourcing decisions on when to order raw materials from suppliers, and in what quantity considering real-time capacity constraints
- Real time data on production status and communicate this to marketing team
- Better working capital management with increase in inventory turns, reduced overtime and reduced expedite costs
- Consolidation of data from all the department and get reliable reports

Recommendation

To fulfill the above requirements, Planvisage offers Advanced Planning and Scheduling solution.

Problems are encountered everyday like delay from supplier, cycle time variation, material rejection, resource breakdown and so on. This is further compounded by demand from customer who could change the due date or quantity of order. So any production plan cannot be fixed as it becomes infeasible the very next day.

A company can become flexible and reliable and also at the same time keep inventory and resource downtime low by running production plan frequently. Planvisage helps to achieve this as their core strength has been in the area of production planning and scheduling. Through Planvisage planning solution, work orders and procurement orders are automatically generated taking into account real time material and capacity constraints. The planning algorithm can be run frequently so that all the problems in factory are visible. Preventive measure can be taken before the problem goes out of proportion.

APS resides over ERP to do planning taking into account material and capacity constraints. It pulls required data from ERP like BOM, Routing, Inventory and WIP and does the planning. The output of the result is sent back to ERP for execution.

Planvisage Advanced Planning and Scheduling Solution Salient Features

Capacity Planning

- Automatically shifts to alternate resource when primary resource not available
- Automatically shifts to alternate routing when primary routing not available
- Consideration of machine break-down time, planned maintenance schedule, holidays and overtime
- Respects constraints like setup time, wait time, queue time and yield
- Different types of resource can be modeled like batch, pooled, aggregate, subcontract or labor
- Consideration of additional resource like tools or fixtures
- Operation wise utilization percentage
- Model sequence dependent setup time

Other Features

- Considers both finite material and capacity constraints simultaneously rather than sequentially
- What-if analysis capability to find if a new order can be satisfied, given a set of orders are already planned in the system
- Allocate constrained capacity & material to high priority customers
- Predict due date of an order taking into account both material and capacity constraints
- Warns how work orders and sales orders are affected when
 - Supplier has delayed his shipment
 - Cycle time variation
 - Material rejection
 - Resource breakdown
- Different strategies for planning like minimize WIP or maximize resource utilization

Material Planning

- Automatically selects alternate item when primary item not available
- Considers lot size constraints while generation production or purchase order
- Takes transfer batch quantity while moving material from one operation to other
- Vendor share percentage can be specified if there are multiple vendors
- Consolidation of purchase orders
- Operation level consumption
- Calculates expected safety stock and creates an automatic trigger
- Moves the capacity loading based on material availability

User Interface

- Role based work flows
- Excel like interface which makes maintenance of data very simple
- Printing or sending email directly from any screen
- Visual representation for bill of material and supply chain diagram
- Color coding scheme for problem orders
- Ability to customize menus, buttons, column headers and labels
- Graphical display of schedules orders using Gantt Chart
- Scheduled orders can be manually moved by drag and drop
- Ability to see the links between upstream and downstream operations graphically
- Ability to create bill of material through drag and drop
- User authorization privileges

Improvement and Testimonial

- Better inventory control as purchase is made at the right time and right quantity
- WIP is minimal as the operations are sequenced
- Reduced resource downtime waiting for material
- Reduced cycle time by using alternates
- Better customer service level

After using Planvisage solution, we see that inactive inventory has been reduced by 56% and an inhouse surplus stock has been reduced by 45%. We are liquidating lot of fat stocks and controlling inactive parts too.

- Mr. Padmanaban, Senior Manager, Tractors and Farm Equipment

Earlier there was no feedback loop to marketing team on when the order will be delivered. Now with Planvisage solution, we are able to give continuous feedback to marketing team based on existing material and capacity constraints

- Mr. Balaji Kiran, Chief Planner, Amara Raja Batteries

