

## Supply Chain Optimization For Leading Industrial Goods Manufacturer: Enabling Full Use Of JD Edwards ERP System

**The Challenge:** WidgetCo, an industrial company with batch manufacturing operations, had recently upgraded its corporate IT system by implementing JD Edwards (JDE) to replace its old, simple pull-signal MRP system. WidgetCo's move to JDE would enable work order and shipment scheduling based on multiple factors (customer demand, actual inventory levels, and established operational parameters). However, failure to do proper up-front preparation (e.g., devising replenishment strategy, updating the parameters, training) resulted in misaligned and missing parameter settings that drove severe imbalances (excesses, shortages) in inventory and under-leveraged the use of JDE. WidgetCo's CEO engaged Gotham to assist WidgetCo's operations team in comprehensively resetting the JDE system parameters front to back.

### The Partnership:

**Analysis:** The joint Gotham/ WidgetCo team conducted a detailed analysis of each category of system parameters, revealing both system set-up problems and data entry errors. Set-up problems included a number of errors in operations parameters, e.g.: (1) component safety stocks based on rule-of-thumb and absent consideration of lead time or demand variability; (2) batch sizes based on outdated requirements, set-up cost, and manufacturing time assumptions; (3) lead times based on wrong inter-plant transit time assumptions and inconsistent use of calendar days and working days. Data entry errors included: (1) inconsistent information for a particular item across locations; and (2) missing fields for an item. The system parameter errors were exacerbated by manual workarounds and exception handling of system-related problems.

**Strategy:** The team solution to the set-up problems entailed: (1) explicitly stating WidgetCo's production and distribution strategy (e.g., in which plant will each SKU be manufactured/ purchased, what stocking policy will be used for each SKU at the plants and the warehouses); and (2) formulating and documenting the logic to be used in setting the parameters, based on the replenishment strategy. In conjunction with WidgetCo's IT team, data entry errors were quickly rectified.

JD Edwards Item Categorization Parameters		JD Edwards Planning Parameters	
Parameter	Description	Parameter	Description
<ul style="list-style-type: none"> <li>• 2<sup>nd</sup> Item Number (LITM)</li> <li>• Branch/plant location (MCU)</li> <li>• SRP categorization codes:                             <ul style="list-style-type: none"> <li>- Line of Business (SRP1)</li> <li>- Product Family (SRP2)</li> <li>- Product Group (SRP3)</li> <li>- Product Class (SRP4)</li> <li>- Manufacturing Strategy (SRP5)</li> </ul> </li> <li>- Division Category Code 3 (SRP9)</li> </ul>	<ul style="list-style-type: none"> <li>• Item number</li> <li>• Location of item</li> <li>• Business categorization</li> <li>• Type of item</li> <li>• Item categorization</li> <li>• Item categorization by brand</li> <li>• Production strategy indicating whether item is stocked at DCs, assembled to order, or made to order</li> <li>• Replenishment strategy for made-to-stock items</li> </ul>	<ul style="list-style-type: none"> <li>• Master Planning Code (PRP4)</li> <li>• ABC Codes (ABCS/ABCM/ABC1)</li> <li>• Planner Number (ANPL)</li> <li>• Buyer Number (BUYR)</li> <li>• Supplier</li> <li>• Order policy parameters:                             <ul style="list-style-type: none"> <li>- Order Policy Code (OPC)</li> <li>- Value Order Policy (OPV)</li> <li>- Freeze Fence (MTF2)</li> <li>- Message Display Fence (MTF3)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Planning family that defines planning approach</li> <li>• By sales, margin, investment</li> <li>• Person responsible for planning</li> <li>• Person responsible for buying</li> <li>• Supplier identity</li> <li>• Lot size policy for the part</li> <li>• Actual lot sizing</li> <li>• To freeze order messages</li> <li>• To freeze message display</li> </ul>
JD Edwards Manufacturing/Operations Parameters		Description	
<ul style="list-style-type: none"> <li>• Transfer Group (PRP2)</li> <li>• Stocking Type (STKT)</li> <li>• Line Type (LNTY)</li> <li>• Safety Stock (SAFE)</li> <li>• EOQ parameters:                             <ul style="list-style-type: none"> <li>- Minimum Reorder Quantity (RQMN)</li> <li>- Multiple Order Quantity (MULT)</li> <li>- Accounting Cost Quantity (MACQ)</li> <li>- Manufactured Leadtime Quantity (MLQ)</li> </ul> </li> <li>• Leadtime Level (LTLV)</li> </ul>	<ul style="list-style-type: none"> <li>• Commodity sub-class for tracking the sourcing of the part</li> <li>• Whether item is manufactured, purchased, obsolete or outsourced at a particular branch/plant</li> <li>• How the work order message should be printed</li> <li>• Quantity to cover for variability in demand</li> <li>• Minimum batch/order size</li> <li>• Step increases in batch/order size if requirements exceeds minimum reorder quantity</li> <li>• Batch/order size used to calculate standard cost</li> <li>• Batch/order size used to calculate lead time</li> <li>• Time needed to manufacture/purchase a fixed lead time item</li> </ul>		

**Execution:** Gotham worked with WidgetCo functional managers to create MS Access tools to recalculate the system parameters based on the documented logic and the SKU demand pattern characteristics. After deciding on update frequencies/ trigger events for resetting each system parameter, responsibilities for maintaining each parameter were assigned to the appropriate operation manager (e.g., warehouse safety stock assigned to distribution manager; manufacturing batch size assigned to engineering manager). The database tools were also made available on the corporate LAN to ensure that the system parameters were aligned with WidgetCo's operations strategy and with the latest demand information moving forward.

**The Results:** The resetting of the system parameters led to a dramatic reduction in the manual workarounds. Backlog was brought under control and on-time delivery improved dramatically (from 68% to 96%) within 6 months. Excess inventory (\$6 MM) was identified with associated disposition plans.