

IBM Business Consulting Services

IBM

Center for Business
Optimization

Helping improve the bottom line through inventory optimization

IBM Dynamic Inventory Optimization Solution



Effective inventory management has become critical to companies as they strive to improve their customer service, cash flow and profit margins, while meeting the challenges of global competition, product proliferation, shorter lifecycles and demand uncertainty.

At the core of inventory management is stocking control, which ensures that the right amounts of stock — raw materials, subassemblies, spare parts and finished goods — are available to support the company's production and distribution activities, as well as its cost objectives. To that end, companies must determine and manage to specific service levels so that customers across the supply chain are served in time, in full, to the extent required. Otherwise, stockouts quickly translate into lost sales.

But finding the optimal balance among these factors is not easy, especially with the large volume of Stock Keeping Units (SKUs) that companies maintain today. Despite the growing use of enterprise resource planning (ERP) systems, just-in-time supply and other forecasting techniques, many companies continue to carry too much inventory while never achieving their desired service levels and fill rates. The response to poor availability is, in many cases, to over-produce in an attempt to safeguard against future shortages. What's more, purchased components are typically evaluated on lowest per unit cost rather than on the total investment required — increasing the inventory base, tying up working capital and incurring storage costs.

Every day that companies hold excess inventory, they lose money! In fact, in its work with clients, IBM has found inventory overages from 10 percent to 90 percent, with an average 41 percent above required levels.



Determining the optimal balance

The IBM Dynamic Inventory Optimization Solution is designed to help companies manage their inventory to optimal levels, providing them with the potential to reduce carrying and logistical costs, increase service levels and improve asset utilization and inventory performance. The solution is designed to assist companies with single- or multi-echelon networks to:

Strategically

- Establish inventory policies and levels
- Evaluate service levels
- Forecast long-term warehouse capacities.

Tactically

- Improve customer service levels
- Identify stock overages and shortages
- Evaluate inventory policies and operations
- Forecast near-term stock consumption
- Evaluate stock/service level trade-offs
- Operate within budget constraints.

Operationally

- Optimize inventory for each and every SKU
- Calculate safety (or buffer) stock to prevent stockouts due to fluctuations in demand and production lead-times
- Create replenishment orders based on client-specific logic
- Combine demand forecasting and inventory policies.

A powerful “what if” analyzer built into the solution is designed to let companies quickly and easily examine the impact that changes to service levels, supplier lead-times or lot sizes, for example, might have on costs, budget and inventory levels.

Using the IBM Dynamic Inventory Optimization Solution, IBM was able to show a major European manufacturer of automotive components how it could reduce inventory by more than 30 percent, while achieving service levels of 97 percent or more and reducing order lines by 18 percent a year.



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Turning analytics into action

The IBM Dynamic Inventory Optimization Solution includes a fully featured user interface; integration capability with SAP, SSA Global, Oracle and legacy systems; extensive online documentation; comprehensive user training; and multiple solution plug-ins that handle replenishment order generation, budget optimization and optimization of stock/no stock decisions.

IBM consultants can work with you to assess your current inventory and present the optimal inventory levels you need to achieve your desired service levels. Or they can integrate the solution into your existing operational environment so you can analyze your inventory when you want.

The solution is supported by the IBM Center for Business Optimization, which brings together IBM's industry and process expertise, hardware and business performance software, and the company's deep computing and advanced analytics and optimization capabilities to tackle your most difficult business challenges.

In addition to the area of supply chain management, the center offers solutions in the areas of marketing investment mix, dynamic pricing and risk management.

For more information

To learn more about IBM Business Consulting Services, contact your IBM representative or visit:

ibm.com/bcs

To learn more about the IBM Dynamic Inventory Optimization Solution and the IBM Center for Business Optimization, visit:

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