



Seven S&OP Reports Every Manufacturing Executive Needs

Sales & operations planning
excellence with IBM Cognos
software

Contents	
3	Business problems
4	Business drivers The S&OP Process
6	The solution The Seven Key S&OP Reports
13	Conclusion Summary

Abstract

Introduction

Under intense pressure to improve service, create innovative new products, and speed delivery, the manufacturing sector remains one of the most competitive. Executives need to align supply, demand, and finance plans to achieve total visibility into business performance – and sustainable competitive advantage.

Overview

What if it were possible to tightly link sales, marketing, supply chain, manufacturing, and finance, so that executives could easily see the financial impact of plans, see variances between supply and demand plans, identify supply constraints and align actual results with financial targets? What if multiple scenarios could be simulated in order to determine the best balance between customer service, operational productivity and financial performance? Decision makers could continually fine-tune plans backward and forward, to create the best plans – and substantially improve business agility and financial performance.

That’s the promise of sales and operations planning (S&OP)– to align demand, supply and finance plans. S&OP enables decision-makers to reach consensus on a single operating plan that drives increased market share and balances critical resources to reach performance goals..

Business problems

For years, manufacturers have struggled to align financial and operational plans – mostly because they use separate systems for the two. Financial planning and budgeting applications are siloed from S&OP and enterprise resource planning (ERP) applications. As a result, top-level financial plans aren't integrated with underlying sales, inventory, and operations planning assumptions. According to Ventana Research, “Neither type of application provides full management of the key performance objectives in the corporate scorecard or top-down views of financial decisions such as the ripple effect that each asset-financing scenario has on the cost of goods sold, inventory, customer delivery metrics, and gross margins.”¹

The *IBM Cognos® S&OP Performance Blueprint* is designed to fill this gap. IBM Cognos solutions include world-leading business intelligence (BI) and performance management software. World-class IBM Cognos enterprise BI, planning and consolidation software, and services help manufacturing companies plan, understand, and manage financial and operational performance.

IBM Cognos Performance Blueprints are predefined data, process and policy models that provide a best practice approach. Downloadable free of charge to IBM Cognos customers, IBM Cognos Blueprints provide out-of-the-box functionality including dashboards, analytical reports and preconfigured templates to facilitate rapid time-to-value in S&OP. ERP and supply chain applications are designed to optimize day-to-day transaction processing. The IBM Cognos Performance Blueprint is designed to complement these applications by extracting, summarizing and combining information into the format necessary for executives to easily view demand and supply plans and model the financial impact of various scenarios.

Designed in collaboration with industry leaders and some of our most successful customers, each IBM Cognos Performance Blueprint is a Web-based solution using IBM® Cognos® 8 Business Intelligence and IBM® Cognos® Planning. The models and processes are designed for most manufacturing companies and can be configured to support alternative S&OP requirements and to accommodate planning in any environment. IBM Cognos Performance Blueprints are pre-populated with common operational drivers and business structures, dramatically reducing the time required to deploy a performance management process.

Business drivers

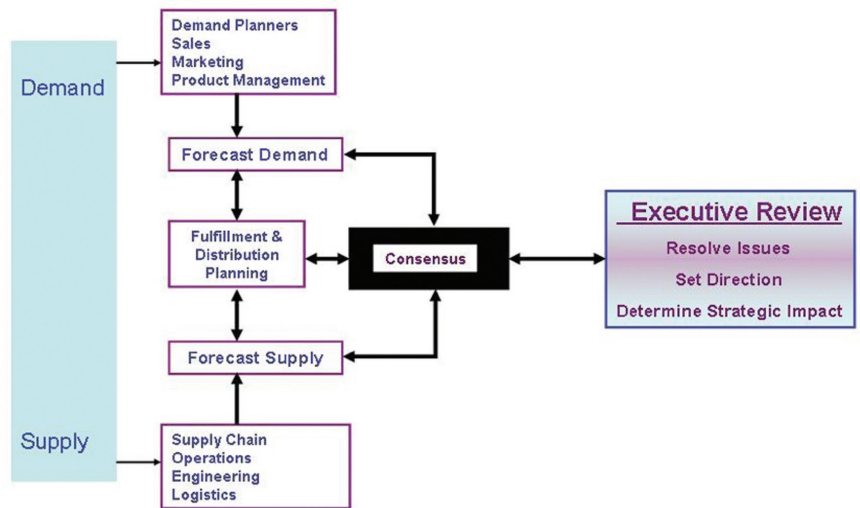
The S&OP Process

The *IBM Cognos S&OP Performance Blueprint* helps manufacturers drive their S&OP process, identify changes in customer demand and supply plans, and simulate the impact of demand, supply, inventory and operating cost performance on financial statements.

The *Blueprint* provides answers to questions such as:

- What is the aggregate demand and supply over the next 18-24 months?
- Have we reached consensus in the demand plan?
- How do we allocate demand to production and distribution facilities?
- Are there sufficient critical constrained resources (labor, machinery, materials) in production to meet demand?
- Are there over-capacity utilization exceptions?
- How many days of inventory exist in each production or distribution facility?
- What are the financial impacts of the demand and supply decisions?
- Are we able to simulate multiple scenarios and link those to the financial plan to determine the optimal course of action?

The S&OP process occurs in stages. As shown in the diagram below, the process brings together multiple inputs from marketing, sales, production and distribution to drive a consensus supply and demand plan. The *IBM Cognos S&OP Performance Blueprint* links that consensus plan to the financial plan so that management can see the impact of multiple scenarios and assumptions on the financial health of the organization.



S&OP Work Flow

Use IBM Cognos 8 BI to analyze results throughout the S&OP process. The *IBM Cognos S&OP Performance Blueprint* facilitates:

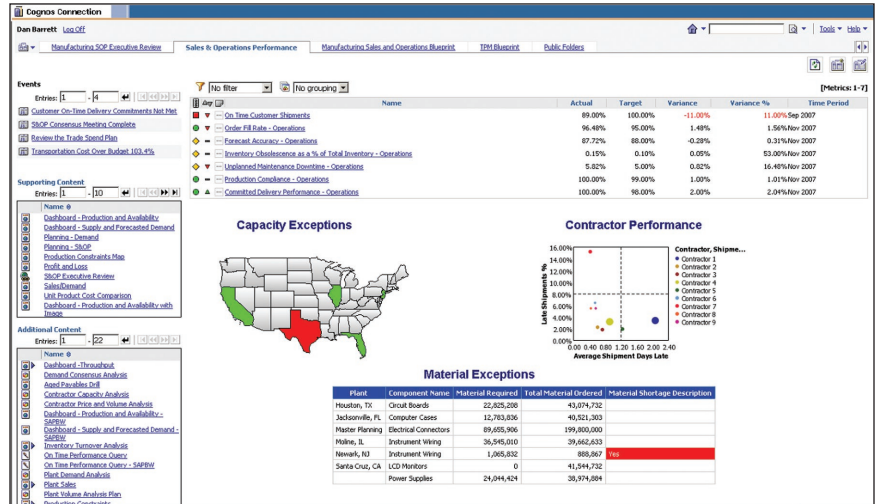
- Re-forecasting demand
- Balancing the production plan to the fulfillment and distribution plan
- The consensus meeting
- The executive review meeting
- Strong linkage to financial objectives

The solution

The Seven Key S&OP Reports

Here are seven S&OP reports and dashboards that are available with the *IBM Cognos S&OP Performance Blueprint*, and are essential for manufacturing executives:

1 Sales & Operations Performance Dashboard: This dashboard provides users in a variety of roles throughout the organization a start-of-the-day view of multiple demand, supply, and financial metrics and links to additional dashboards, detailed reports and analytics. In this example, we see a watch list of supply chain metrics in the upper right with the capability to drill down to the details of these metrics. The reports on the bottom right provide three different views into forecasted capacity exceptions: production exceptions map, contractor metrics and material exceptions. The bottom left of the portal provides links to additional supporting S&OP analysis and content. The upper left area provides proactive alerts into actual and forecasted exceptions to the S&OP process.

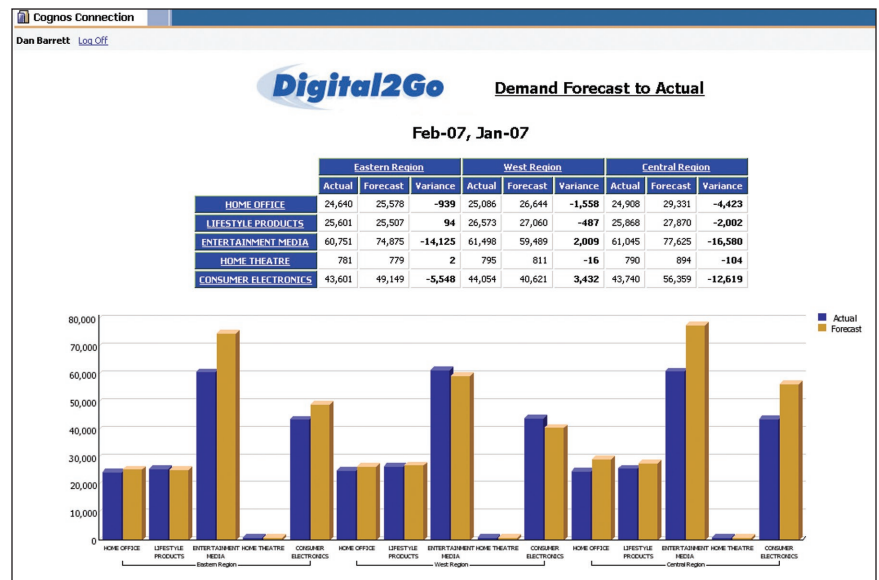


2 S&OP Executive Review Dashboard: This dashboard facilitates the S&OP executive review process. The consensus or pre-S&OP meeting provides the details to the executive review process, and this dashboard provides visibility into the status of those submitted operations and supply chain plans. The CFO, vice president of supply chain, or other top executives can see the connections between the S&OP plan and financial plans. Business unit managers can see the consolidated results of the S&OP plans on their operations and the effect of those results and scenarios on the integrated financials of that business unit.



(1) Key metrics are delivered in the top left. (2) Alerts regarding under-performance of metrics are proactively delivered to the user for action. (3) Additional links to supporting reports and financial statements are provided. (4) Revenue Attainment, Revenue Growth, New Product Revenue, and Capacity Utilization graphs are provided in the right side of the dashboard. The graphs can be filtered by Business Unit, Channel, and Month. (5) The Capacity Utilization red bars indicate an over-capacity forecast and provide drill down into the Business Unit, Channel, Months, and Product Family utilization details.

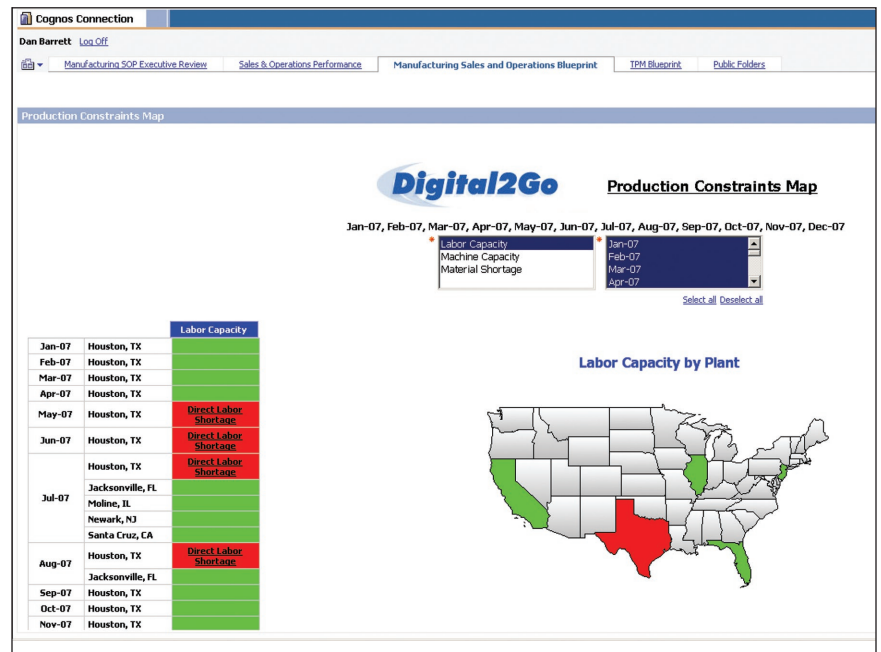
3 Demand Analysis: This summary view shows demand forecast compared with actual demand. The manager can drill down to regions, product lines or customers and gain visibility into demand that drives the S&OP process. Because an organization may have multiple versions of the demand plan, this report provides a view into all these varying opinions and drives consensus. By comparing plans and driving consensus, executives can see the impact of the consensus demand plan on constrained resources such as labor, materials, and machinery.



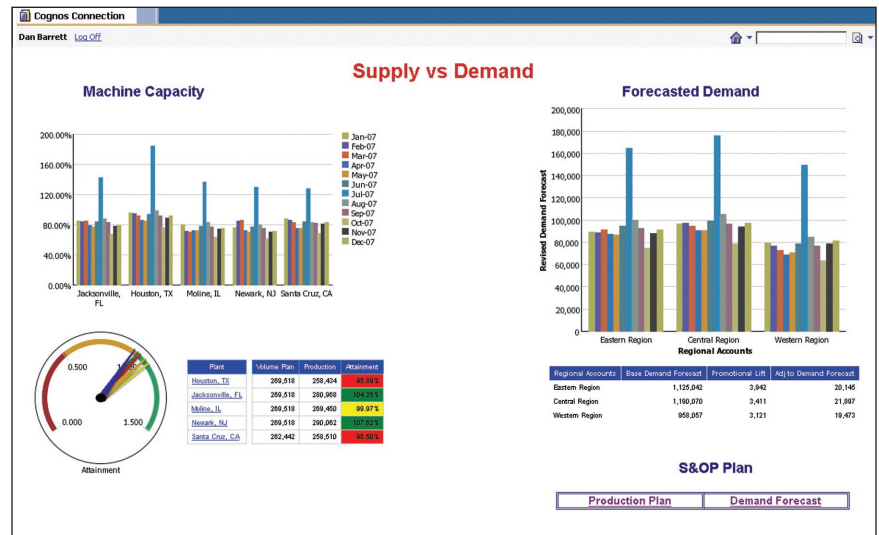
4 Capacity Utilization Report: When the executive drills down from the red bar on the S&OP Executive Review Dashboard, the Capacity Utilization view appears, providing visibility into forecasted capacity utilization across products, channels and business units. The drill-down provides executives a forward-looking exception report that allows them to narrow in on just those areas that they need to focus on in the executive review process.

Capacity Utilization										
Months Selected: Jun-07										
Bus Unit	Actual Shipments	Independent Demand	Total Supply - Units	Production Units	Purchases Units	Ending Inventory Units	Projected Days Supply	Projected Days Supply	Total Unit Capacity	Capacity Utilization
Business Unit		566,040	607,817	529,022	83,795	1,632,184	337.31	337.31	945,000	134.21%
Channel	Actual Shipments	Independent Demand	Total Supply - Units	Production Units	Purchases Units	Ending Inventory Units	Projected Days Supply	Projected Days Supply	Total Unit Capacity	Capacity Utilization
Channel 1		566,040	607,817	529,022	83,795	1,632,184	337.31	337.31	945,000	134.21%
Product	Actual Shipments	Independent Demand	Total Supply - Units	Production Units	Purchases Units	Ending Inventory Units	Projected Days Supply	Projected Days Supply	Total Unit Capacity	Capacity Utilization
CONSUMER ELECTRONICS		120,000	120,153	120,153		643,271	83.42	83.42	115,000	184.48%
ENTERTAINMENT MEDIA		156,405	181,500	163,500	18,000	493,994	48.24	48.24	185,000	117.10%
HOME OFFICE		83,634	94,247	78,482	15,795	317,889	150.26	150.26	80,000	117.81%
HOME THEATRE		72,000	41,917	11,917	20,000	80,679	34.26	34.26	75,000	52.89%
LIFESTYLE PRODUCTS		110,000	110,000	100,000	10,000	60,620	13.78	13.78	100,000	110.00%
NEW PRODUCTS		50,000	60,000	50,000	10,000	17,661	7.36	7.36	20,000	300.00%

5 Production Constraints Alerts Map: Once the organization gains consensus on demand, it is compared to the constrained supply resources. The *Blueprint* provides executives with alerts on capacity constraints in major areas such as labor, machinery, sub-contractor capability and materials. The Production Constraints Map shows where imbalances occur on the operational side of S&OP in a graphical format. This type of alert report provides quick guidance into forward-looking supply constraints so that corrections can be made before issues become critical.



6 Supply vs. Demand Dashboard: With this dashboard, the S&OP manager is provided a concise look at the demand and supply balance. Stop light alerting (red, yellow and green highlighting) is used to highlight exceptions to the plan and then can be used to prompt drill down to more detail. The right side of the dashboard blends actual and forecasted demand to provide a quick snapshot of demand by region. The left side of the dashboard blends actual and forecasted capacity (in this example, we use machine capacity in the upper left) and plant utilization in the lower left chart.



7 Financial Reports: In many S&OP solutions, the reporting capabilities cover the supply vs. demand plan or operational plans, but these must then be manually consolidated into a spreadsheet or Microsoft® PowerPoint® presentation to be delivered to top management. IBM Cognos software provides the missing link between the supply and demand plan and financial applications, so that executives can immediately see the impact of the S&OP process on the financial well-being of the organization. Key financial reports include the income statement, balance sheet, and cash flow. All of these reports can be filtered for business unit and time period. The example below shows the income statement. Simulation capability allows changes to be made in demand and supply plans and the financial impact is immediately graphically depicted.

Income Statement (\$ Thousands)

Version: Current Forecast Business Unit(s): 1, 2 Quarter(s): Q1-07, Q2-07, Q3-07, Q4-07

Q1-07
 Q2-07
 Q3-07
 Q4-07
 Q1-08
 Q2-08
 Q3-08
 Q4-08
 Q1-09
 Q2-09
 Q3-09
 Q4-09

Current Forecast
 Business Unit 1
 Business Unit 2
[Select all](#) [Deselect all](#)

	Q1-07	Q2-07	Q3-07	Q4-07	Total
Revenue	\$489,999	\$465,525	\$554,312	\$446,967	\$1,956,804
Material	\$77,784	\$73,214	\$86,658	\$70,058	\$307,714
Labor	\$77,784	\$73,214	\$86,658	\$70,058	\$307,714
Overhead	\$77,784	\$73,214	\$86,658	\$70,058	\$307,714
COGS	\$233,354	\$215,644	\$359,974	\$280,175	\$929,147
Gross margin	\$256,647	\$245,885	\$294,338	\$236,792	\$1,033,663
Gross Margin %	52.29%	52.76%	52.99%	52.91%	52.91%
Depreciation and amortization	\$971	\$970	\$1,085	\$1,218	\$4,144
SG&A Expenses	\$5,893	\$6,048	\$6,181	\$6,187	\$24,309
Total operating expenses	\$6,765	\$7,017	\$7,266	\$7,405	\$28,453
Profit from operations	\$249,883	\$238,867	\$287,072	\$229,387	\$1,005,210
Interest expense	\$2,200	\$2,200	\$2,200	\$2,200	\$8,800
Net income before taxes	\$247,683	\$236,667	\$284,872	\$227,187	\$996,210
Provision for income taxes	\$74,290	\$70,985	\$85,447	\$68,141	\$298,863
Net income	\$173,393	\$165,682	\$199,425	\$159,046	\$697,347

Conclusion

Summary

Thousands of manufacturing companies worldwide trust IBM Cognos performance management software to improve service levels, gain visibility into revenue and profitability performance, control costs, and better manage extended and complex supply chains. We help the world's most progressive manufacturers:

- Leverage their existing investments by aggregating data from ERP applications, transaction systems, and other sources across the enterprise, creating a single, integrated performance management framework – for rapid decision-making
- Analyze customer, product, market and channel Profitability
- Move beyond cumbersome, error-prone spreadsheets for key S&OP plans with flexible, connected software to reconcile sales and demand forecasts with supply chain and production plans, and to test multiple cost scenarios
- Identify the source of production issues and take corrective action
- Comply with legislative and regulatory requirements, such as Sarbanes-Oxley, OSHA and EPA.

Many of the leading players in manufacturing choose IBM Cognos software, including 19 of the 20 largest consumer packaged goods (CPG) manufacturers, nine of the top 10 high-tech companies, and all of the top 10 auto makers. To find out more about how IBM Cognos solutions enable the high-performance manufacturing enterprise – providing management visibility, predictability, complete information and global optimization – please visit the IBM Cognos Manufacturing Resource Center at www.cognos.com/manufacturing.

More information about IBM Cognos Performance Blueprints for manufacturing may be found at <http://www.cognos.com/solutions/industry/manufacturing/blueprints.html>. Or visit the IBM Cognos Innovation Center for Performance Management, a resource center for enabling technologies and best practices, at www.cognos.com/innovationcenter.



© Copyright IBM Corporation 2009

IBM Canada
3755 Riverside Drive
Ottawa, ON, Canada K1G 4K9

Produced in Canada
March 2009
All Rights Reserved.

IBM, the IBM logo and ibm.com are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries, or both. If these and other IBM trademarked terms are marked on their first occurrence in this information with a trademark symbol ("®" or "™"), these symbols indicate U.S. registered or common law trademarks owned by IBM at the time this information was published. Such trademarks may also be registered or common law trademarks in other countries. A current list of IBM trademarks is available on the Web at "Copyright and trademark information" at www.ibm.com/legal/copytrade.shtml.

References in this publication to IBM products or services do not imply that IBM intends to make them available in all countries in which IBM operates.

Microsoft, Windows, Windows NT, and the Windows logo are trademarks of Microsoft Corporation in the United States, other countries, or both.

Any reference in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product and use of those Web sites is at your own risk.

Endnotes

- 1 "Integrated Performance Management for Manufacturers," Colin Snow, Ventana Research, November 2007.

About IBM Cognos BI and Performance Management

IBM Cognos business intelligence (BI) and performance management solutions deliver world-leading enterprise planning, consolidation and BI software, support and services to help companies plan, understand and manage financial and operational performance. IBM Cognos solutions bring together technology, analytical applications, best practices, and a broad network of partners to give customers an open, adaptive and complete performance solution. Over 23,000 customers in more than 135 countries around the world choose IBM Cognos solutions.

For further information or to reach a representative: www.ibm.com/cognos

Request a call

To request a call or to ask a question, go to www.ibm.com/cognos/contactus. An IBM Cognos representative will respond to your enquiry within two business days.