

Sales and Operations Planning Performance Blueprint



Introduction

What if it were possible to tightly link sales, marketing, supply chain, manufacturing and finance, so that executives could see with ease the financial impact of plans, note variances between supply and demand plans, and identify supply constraints and align actual results with financial and operational targets? What if manufacturers could simulate multiple scenarios to determine the best balance among customer service, operational productivity, and financial performance? Decision makers could continually fine-tune plans backward and forward to 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 meet performance goals.

S&OP has captured much attention as a result of globalization and the dual requirements of meeting customer demand and providing optimal operational efficiency. Traditionally, the marketing, sales, and manufacturing groups within an organization have operated in “silos” with different goals, which threatens overall enterprise objectives. But increasingly, companies see the need for a robust S&OP model that helps groups jointly address operational issues affecting overall corporate goals.

Successful S&OP applications offer

- An integrated model that gives all groups in the company visibility and the ability to collaborate with and respond to one another
- Quick response and delivery to customers and distributors so companies can remain competitive and gain market share
- The ability to incorporate and plan for new products quickly, so the ever-increasing demand for the “latest and greatest” can be met
- The ability to plan and distribute manufacturing operations in a cost- and time-efficient manner
- The ability to plan for third-party sourcing, including off-shore and contractor sourcing

For years, manufacturers have struggled to align financial and operational plans—primarily because they use separate systems for the two plans. When financial planning and budgeting applications are siloed from S&OP and enterprise resource planning (ERP) applications, top-level financial plans don't integrate 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.”

A successful S&OP process creates an actionable consensus plan with an operational blueprint for profitably matching supply to demand.

Unfortunately, such cross-functional alignment is rare. According to a study by Ventana Research, “most firms (58 percent of those surveyed) do not have formal meetings to review demand and supply, do not address multiple lines of business or brands in those meetings, and do not have strict agendas for their top-level S&OP meeting.”¹ Meanwhile, Ventana found companies that take simple steps toward S&OP, such as having plan-versus-actual reports as part of a top-level reporting process, report overwhelming gains in gross margin. Top-performing companies evaluate plans monthly, and those plans span 18 months or longer.

The call for operational and financial discipline

Because planning is the critical link between strategy and execution, improving S&OP processes leads to enhanced organizational performance and competitiveness. S&OP brings to sales and marketing, supply chain and operations the same kind of rigor, thoroughness, and discipline that companies apply to their financial management and reporting systems.

While no regulatory framework of the kind governing financial statements exists for S&OP, many stock analysts now ask companies when they deliver earnings guidance what their S&OP plan reveals about potential performance, and for good reason: companies that strive to align their financial goals and S&OP hit their targets more often.

Fortunately, best practices in S&OP have matured over the past two decades, and information technology to support enterprise-wide S&OP has improved in recent years.

Some managers may ask why they need software to support S&OP, since existing ERP, supply chain, and demand-planning solutions offer such capabilities as demand planning, financial planning, supply optimization and supply scheduling. What's missing is the "glue" that binds these capabilities together. To reap the full benefit of investment in systems, executives need a unified view of business performance throughout all functional areas and lines of business, along with the ability to perform what-if analysis, test assumptions and see the immediate impact of these assumptions on the income statement, balance sheet and cash flow statements.

IBM Cognos® 8 Planning and IBM Cognos 8 Business Intelligence integrate with existing ERP and other transaction systems and facilitate building a repeatable process for creating plans; providing ad-hoc analysis; performing powerful scenario planning; empowering front-line decision-makers with dashboards, alerts, and scorecards to respond immediately to events; and measuring the progress of their business results toward mid- and long-term performance objectives.

S&OP scorecard

A Ventana Research survey of 470 large manufacturers found the following:

- Most companies (58 percent) are new to S&OP and lack a rigorous process.
- Of those with a formal S&OP process in place, 65 percent have had the process for less than five years. Most use it in limited fashion, for short-term planning for single entities or a single line of business that focuses on demand, not supply.
- Many companies (42 percent) with multiple factories or regional operating facilities do not include them in S&OP. Nor do most include new product introduction plans (57 percent) or use it to reconcile financial plans (60 percent) or to account for strategic initiatives and projects (59 percent).
- Even fewer (37 percent) have formal meetings where executives review S&OP.

Source: Sales and Operations Planning: Measuring Maturity and Opportunity for Operational Performance Management, Ventana Research, 2006.

IBM Cognos S&OP Performance Blueprint process flow

As S&OP matures in organizations, it evolves into a supply chain-wide process that reconciles operational plans throughout relevant business operations. An effective S&OP process combines the initial creation of a sales and operations plan with a periodic executive review. IBM Cognos Blueprints provide multiple modules that enable each of these areas, as shown in Figure 1.

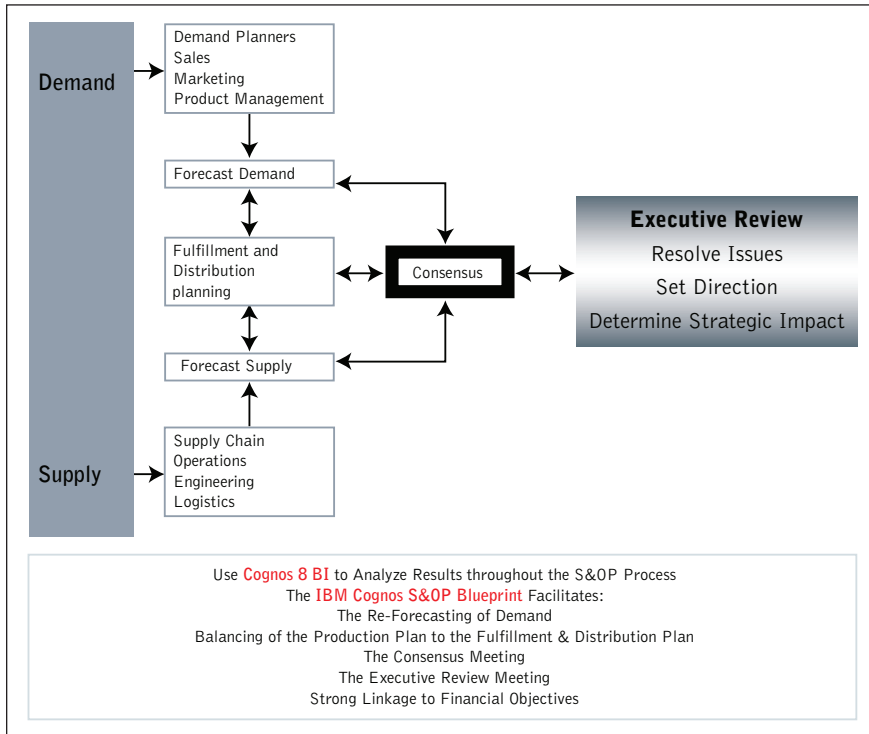


Figure 1

Modular yet tightly integrated, the *IBM Cognos Sales and Operations Planning Performance Blueprint Suite* enables a multi-step implementation approach to driving the maturity model of S&OP in manufacturers:

1. **Data Gathering:** Collects actual results; accesses transactions systems; provides clean, robust, meaningful data in a single environment
2. **Demand Planning:** Enables planning and agreement meetings; provides reconciliation between sales, marketing, promotions, and new product introduction.
3. **Supply Planning:** Provides master planner views with high-level production and distribution allocation assumptions; drives demand plans down to a plant-level production and distribution capability view.
4. **Consensus Meeting:** Integrates the demand and supply plan and provides a model to drive conflict resolution.
5. **Executive Meeting:** Aligns corporate goals through executive review; links to integrated financial plans; provides a review process for previous months action items; reviews consensus meeting output; analyzes financial, operational, and strategic metrics.

Blueprint benefits include

- Increased customer service levels
- Increased plant productivity
- Decreased inventory levels
- Decreased inventory obsolescence
- Decreased freight costs
- Decreased order lead times
- Decreased supplier lead times
- Improved discipline, coordination and communication between cross-functional teams
- Better decisions with decreased time for decision making
- Better financial planning with decreased time to create financial plans

- Increased accountability and visibility
- Greater management control
- Future focused planning and decision making

IBM Cognos Sales and Operations Planning Performance Blueprint Modules

1. The IBM Cognos Sales and Operations Planning Baseline Module

facilitates creation of a monthly or quarterly base S&OP plan, including a Demand Review and Production Operations Review.

The IBM Cognos Sales and Operations Planning Baseline Module provides two models:

- A. The Demand Planning Model deploys summary-level demand planning to the appropriate level in the organization (salespersons, sales managers, demand planners, marketing planners, manufacturers' representatives and product managers) and potentially to customers to plan anticipated demand for a region or selected channel. Planners view a current-year baseline forecast together with prior year's forecast and actuals by product category or family. They make adjustments to the forecast based on their knowledge of the market. Corporate planners can provide overall pricing and other base-level assumptions to drive the process. Other planners can add in promotional plans to determine unit uplift on the base demand plan. Updates are automatically tracked by workflow, and once all planners have reached consensus as indicated by that workflow the demand plan is linked to the Production Supply Model.
- B. The Production Supply Model provides an easily updated constrained operations model to give operations planners the ability to manage multi-plant production and meet anticipated demand levels. High-level production operations planning provides rough cut capacity planning around three key constrained resources within the production facility:
 1. Key human resources
 2. Machinery or bottlenecks
 3. Material (key constrained components)

The **IBM Cognos Production Supply Model** requires very little manual input from production managers. Most production factors such as labor, machine capacity and material requirements link from source systems. Through centrally controlled assumptions, a master planner can analyze and determine the production allocated to specific plants. The production allocation drives the production constraint calculations required to meet the demand placed on the plant. The master planner can perform multiple iterations of this plan to accommodate expected customer demand and balance production throughout plants.

The **Production Supply Model** calculates production costs by product and by plant, so manufacturers can base decisions about where to produce on the most efficient model, balancing between operating cost and customer-service levels. The Production Supply Model allows for the fact that, in some situations, it may be more cost-efficient to outsource production. There are contractor models that enable this decision-making process.

2. The **IBM Cognos Sales and Operations Planning Distribution Module**

helps organizations test major constraints in the distribution and fulfillment planning process, including inventory targets and budgets, warehouse space and distribution capability. Supply chain costs are modeled and simulated including capital investments, carrying, variable and fixed-operating costs. Manufacturers can use the plan to determine whether sufficient resources and budget exist to meet distribution demand over broad timeframes, including months, quarters, and years. Manufacturers also can test scenarios to balance service level versus cost tradeoffs.

The module helps companies meet typical business needs, such as the ability to

- Model the constraints and costs of
 - Warehouse facilities (e.g., space and inventory)
 - Critical labor and machinery resources
 - Direct and indirect expenses
- Validate that inventory is being deployed effectively throughout the distribution network to cost-effectively maximize customer service
- Integrate fulfillment and distribution capabilities into the S&OP process

3. The **IBM Cognos S&OP Executive Review Module** is an executive management tool that facilitates periodic review. Manufacturers typically review production and sales demand weekly and conduct a formal S&OP executive review monthly. In addition to the initial S&OP plan—typically an annual plan with rolling monthly or quarterly reviews—the most effective S&OP process also involves periodic S&OP reviews by senior management. The purpose of the executive review meeting is to evaluate performance against the existing plan, identify any business or market changes that might necessitate changes to the plan, and make necessary adjustments.

The **IBM Cognos Sales and Operations Planning Executive Review Module**

- Drives periodic executive S&OP review meetings
- Provides integration among the IBM Cognos S&OP Baseline and Distribution Modules
- Accesses and analyzes actual and forecasted demand, supply, and inventory metrics at a product family level by units and monetary value
- Conducts what-if scenario analysis to determine the most profitable plans
- Provides an integrated set of financial plans (income statement, balance sheet, and cash flow) so that the entire company is working toward a single set of financial objectives and business goals
- Measures financial performance of the plan (plan versus actual) for revenue, cost of goods sold (COGS) and gross margin, with specific metrics, including
 - A summary of labor, machine, material, and supplier constraints
 - Revenue (units and monetary value-plan, actual and variances on a periodic and cumulative basis)
 - COGS (plan and actuals)
 - Inventory (plan, actuals, variances, and days of supply)
 - Daily production rate (plan, actuals and variances on periodic and cumulative basis)
 - Rough-cut capacity plan and actuals

- Key demand and supply issues
- Capital acquisition requirements
- Key financial metrics, ratios, and measures

Together these three modules form a powerful S&OP suite that drives a tight connection among demand plans, constrained production and distribution plans and their link to the operational and strategic financial goals of the organization.

The IBM Cognos S&OP Blueprint in action

The *IBM Cognos S&OP Blueprint* presents information in many forms, with the capability to view more detailed analyses. It also includes up-to-date information spanning multiple transactional and planning systems. IBM Cognos provides portals and dashboards to drive the decision-making and review process. The Sales and Operations Performance Portal (Figure 2) shows an example of the range of charts available to a decision maker. From this portal, the manager can access the full range of relevant metrics, alerts, reports, multi-dimensional analysis, and plans.



Figure 2: Sales and Operations Performance Portal

Visibility into multiple transactions systems and forward-looking plan data is crucial in driving consensus in the S&OP process. Managers receive alerts to plan exceptions and can view more detail, as illustrated in Figure 3. The dashboard

- Highlights variances between supply and demand plans and between actuals and forecast
- Provides immediate insight into the demand plan and resulting production-capacity exceptions that would inhibit the plan
- Links to the workflow and templates for the Demand Planning Model and the Production Supply Model

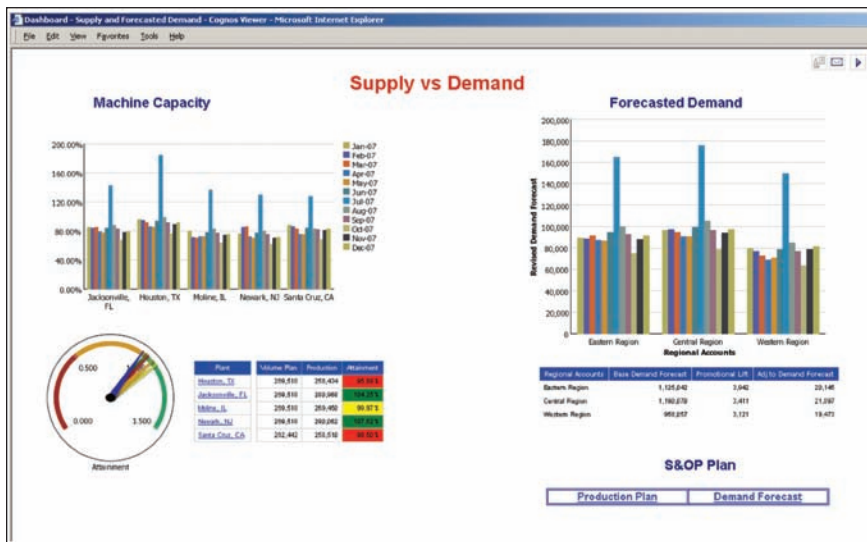


Figure 3: Supply Versus Demand Dashboard

To drive visibility into exceptions and alerts, the S&OP Distribution Portal (Figure 4) displays multiple charts, graphs, maps and links to the supporting actual and plan data. It provides a resource capacity plan over time, by resource, product, and distribution center and plan version. Charting forecasted required capacity against demonstrated and maximum capacity with highlighting provides clear visibility into resources that could constrain demand placed on the distribution center.

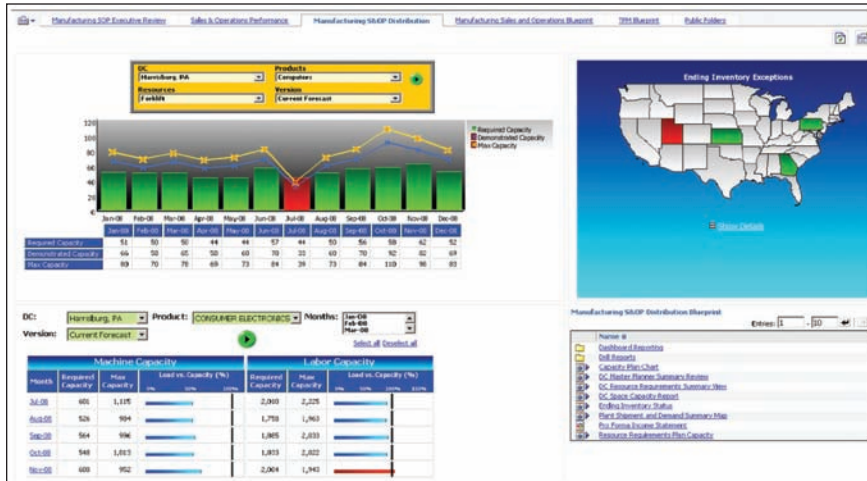


Figure 4: The S&OP Distribution Dashboard

The S&OP Executive Review Module presents information in many forms, including detailed analyses and current data from multiple transactional and planning systems. As a part of the S&OP executive review, IBM Cognos provides portals and dashboards to drive the decision-making and review process. The S&OP Executive Review Dashboard (Figure 5) provides a concise view into the results of the consolidated S&OP modules and shows the effects of plans on an integrated set of financial statements and metrics.



Figure 5: The Executive Review Dashboard

Using the IBM Cognos Sales and Operations Planning Executive Review Module, executives can change the consensus plan to resolve issues, set direction, and determine the strategic impact of changes. Results of changes are immediately visible through real-time charts, graphs, and links to the income statement, balance sheet and cash flow statements (Figures 6 through 8).

	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07
DEMAND											
Actual/Forecast	Actuals	Actuals	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast
4 Actual Shipments	81,654	78,169									
5 Bookings	57,026	58,395	90,000	93,600	97,200	100,800	104,400	108,000	111,600	115,200	118,800
7 Forecast Demand	66,084	67,543	66,857	66,262	68,983	62,096	147,133	68,279	63,939	51,966	
8 Override Demand	55,556	55,556	55,556	55,556	55,556	55,556	145,000	55,556	55,556	55,556	
10 Select Independent Demand Method			Bookings	Bookings	Bookings	Override De	Override De	Override De	Override De	Override De	Overr
12 Independent Demand	81,654	78,169	90,000	93,600	97,200	55,556	145,000	55,556	55,556	55,556	
14 SUPPLY											
15 Beginning Inventory Units	126,000	144,454	159,263	159,263	115,663	68,463	62,907	(32,893)	(37,648)	(43,204)	(48,760)
16 Beginning Inventory Cost	7,318,000	8,389,865	9,249,976	9,249,976	6,717,688	3,976,312	3,653,645	(1,863,955)	(2,186,622)	(2,509,288)	(2,831,950)
18 Production Units	90,108	82,979	80,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
19 Purchases Units	10,000	10,000	10,000								
20 Total Supply Units	100,108	92,979	90,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
21 Total Supply Cost	5,814,273	5,400,191	5,227,200	2,904,000	2,904,000	2,904,000	2,904,000	2,904,000	2,904,000	2,904,000	2,904,000
22 COGS	4,742,487	4,540,081	5,227,200	5,436,288	5,645,376	3,226,667	8,421,600	3,226,667	3,226,667	3,226,667	3,226,667
24 Ending Inventory Units	144,454	159,263	159,263	115,663	68,463	62,907	(32,893)	(37,648)	(43,204)	(48,760)	(54,316)
25 Ending Inventory Cost	8,389,865	9,249,976	9,249,976	6,717,688	3,976,312	3,653,645	(1,863,955)	(2,186,622)	(2,509,288)	(2,831,950)	(3,154,616)
26 Target Inventory	0	0	145,000	145,000	145,000	145,000	145,000	145,000	145,000	145,000	145,000
26 Production Days per Mo.	26	27	26	25	26	26	26	26	26	25	26
29 Daily Sales Rate	3,807	3,913	3,600	3,888	2,137	5,800	2,137	2,137	2,222	2,137	2,137
30 Projected Days Supply	27.16	19.98	25.00	24.07	45.49	9.58	67.86	26.00	25.00	26.00	26.00

Figure 6: The Executive Review template summarizes demand and supply metrics by channel and product family, with multiple scenarios.

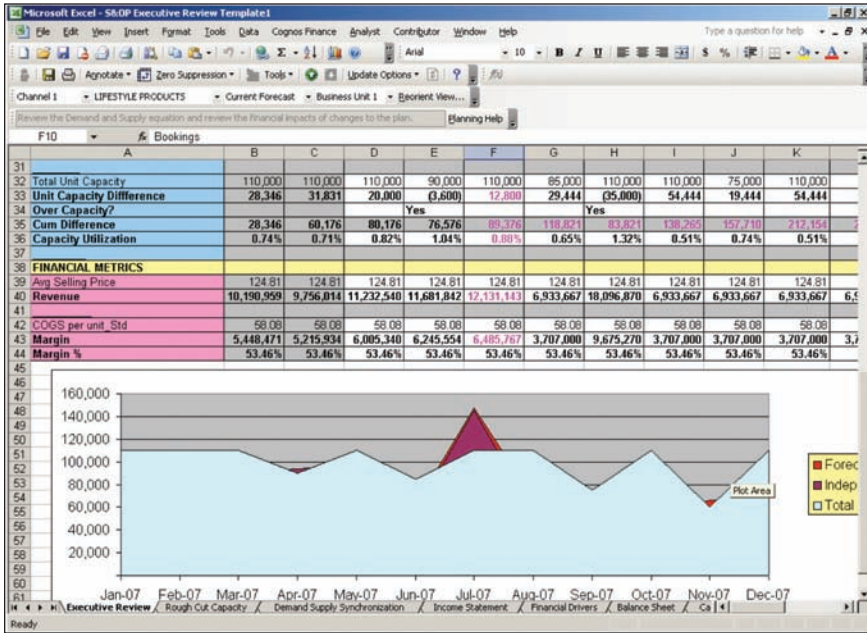


Figure 7: The Executive Review supports the decision-making process with financial metrics and real-time updates to charts.

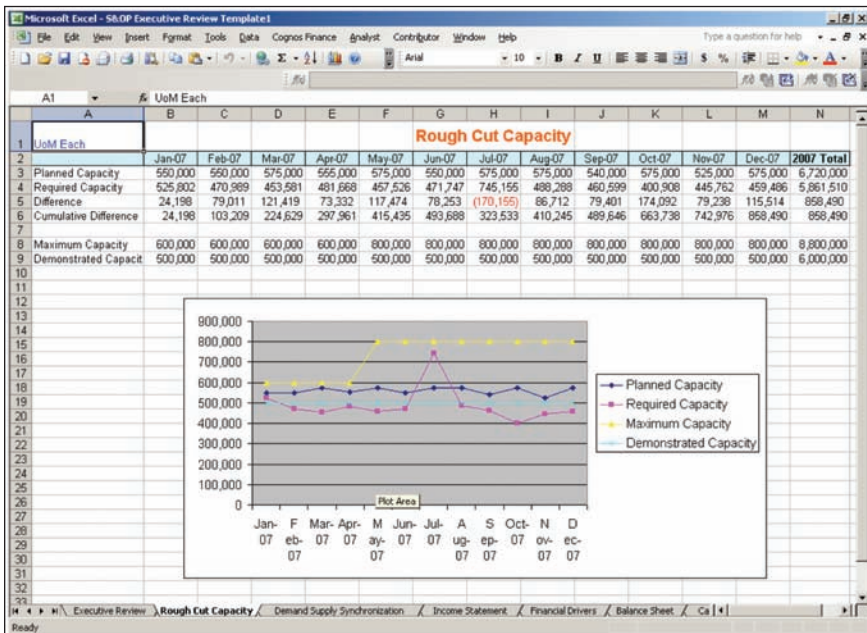


Figure 8: Rough-Cut Capacity Review shows real-time changes to charts based on changes to the supply and demand metrics.

IBM Cognos Sales And Operations Planning Performance Blueprint

In addition to software solutions, *IBM Cognos Performance Blueprints* offer predefined data, process, and policy models that provide a best-practice approach. Available at no charge to IBM Cognos customers, *IBM Cognos Performance Blueprints* provide out-of-the-box functionality, including dashboards, analytical reports and a pre-configured data model to facilitate rapid time-to-value in S&OP.

Designed in collaboration with industry leaders and many successful IBM Cognos customers, each *Blueprint* is a Web-based process using IBM Cognos 8 Planning and Business Intelligence. Models and processes are designed for most manufacturing companies and can be configured to support alternative model requirements and accommodate planning in any environment. Blueprints dramatically reduce the time required to deploy a new performance-management process by providing pre-populated common operational drivers and business structures. Manufacturers benefit from proven practices in model design that greatly reduce investment in implementation time and resources. Rather than reinventing the wheel on fundamental process analysis and technical design, companies can focus on applying technology to solve business problems.

A final word

The IBM Cognos Sales and Operations Planning Performance Blueprint maximizes insight into sales, marketing, supply chain and financial performance, helping decision makers build and continually fine-tune plans that achieve business goals. To drive planning, the Blueprint gives immediate visibility into the financial impact of operational decisions. Better alignment between S&OP and financial goals delivers stronger business performance.

Effective S&OP enables a unified statement of demand and a single agreed-upon supply plan. Each functional group works from common information, yet sees information displayed in a way most meaningful to that group (units, dollars, hours, etc.). The result is improved coordination and communication, improved visibility throughout the entire supply chain, reduced costs, greater connectivity among all aspects of the supply chain and improved customer service through better planning and more frequent review of performance and changes in business conditions.

About the IBM Cognos Innovation Center for Performance Management

The IBM Cognos Innovation Center was established in North America and Europe to advance the understanding of proven planning and performance management techniques, technologies, and practices. The Innovation Center is dedicated to transforming routine performance management practices into “next practices” that help companies

- `Cut costs
- `Streamline processes
- `Boost productivity
- `Enable rapid response to opportunity
- `Increase management visibility

Staffed globally by experts in planning, technology, and performance and strategy management, the Innovation Center partners with more than 600 IBM Cognos customers, academicians, industry leaders, and others seeking to accelerate adoption, reduce risk, and maximize the impact of technology-enabled performance management practices

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.



© Copyright IBM Corporation 2009

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

Produced in Canada
April 2009
All Rights Reserved.

IBM, and the IBM logo are trademarks of International Business Machines Corporation in the United States, other countries or both. For a complete list of IBM trademarks, see www.ibm.com/legal/copytrade.shtml.

Other company, product and service names may be trademarks or service marks of others.

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.

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 Sales and Operations Planning: Measuring Maturity and Opportunity for Operational Performance Management, *Ventana Research*, 2006

IBM Cognos
Innovation Center
for Performance Management