Brief

IBM

SCOR Performance Blueprint: A Web-based performance management application based on the Supply Chain Operations Reference Model

Information Management

Cognos. software

Introduction

This application brief demonstrates a Web-based performance management application for the industrial sector that follows the methodology of the Supply Chain Operations Reference Model (SCOR). *The IBM Cognos® SCOR Performance Blueprint* helps organizations make significant improvements in their supply chain processes to drive lower costs and higher profit.

The ability to follow a process from raw materials to finished product is critical to customer service. Yet the sheer volume of data makes this difficult to achieve: sales, purchasing, fulfillment, inventory, production and logistics. Data from customers and suppliers adds to the complexity. All of these have their respective applications and data silos.

Even though most organizations use ERP systems, supply chain management software and supporting applications that provide basic reporting capabilities, these reports are rarely flexible enough to address specific questions or immediate needs. Nor do they encompass the entire supply chain or provide the process view needed to monitor end-to-end supply chain performance.

Managers also know they need better visibility into their customers' needs. Most companies rank customer service as one of their highest priorities. Yet few actually collaborate with customers in key areas–from strategic planning and forecasting to inventory management and cost reduction.

The result? A disconnect between the supply and demand sides of the business. This disconnect creates issues such as:

- *Unpredictability.* The more confidently a manager can predict demand, quantity, costs and targets, the better they can secure suppliers and build processes. Unpredictability causes variation between expected and actual results. Left uncorrected, the problem is likely to reoccur with continued detrimental impact on the supply chain. Usually, this is because the root cause of the variation can't be found and the process isn't fixed. When this happens, managers fall into a constant game of catch-up – moving resources and materials around at the last minute, rather than proactively driving performance.
- *Incomplete information.* Lacking the time to analyze and understand a problem fully, managers have no choice but to make hasty decisions based on pre-configured ERP reports that provide a historical or partial view of the issue. These reports help managers solve their immediate problems but prevent them from making improvements that can lower costs or improve efficiency on a larger scale.
- *Local optimization.* Organizations are spreading supply chain operations all over the world. Yet much optimization is still done at a local level – by product, facility, country or region. Few companies make global optimization a top priority or allocate human resources to achieving it. This localized approach to optimization is to be expected, given that most managers see silos of information rather than a complete, integrated view. Also, without a clear link to strategy, managers can't see or predict the impact their actions will have further down the line. Their actions can bring about delays, cost increases or shortfalls that ultimately impact customer satisfaction.

These are just a few of the issues that managers face when they lack complete supply chain visibility. To keep all the elements in the chain running smoothly, companies have to see what's going on, the decisions they need to make and the impact these decisions will have up and down the extended supply chain. What organizations need are solutions that provide complete supply chain visibility, including scorecards and dashboards to help them overcome their data silos to assess performance.

The *SCOR Blueprint* is a scorecarding application that includes more than 400 predefined metrics that link to the Performance Attributes and Management Processes of the Supply Chain Operations Reference (SCOR) model, developed by the Supply Chain Council. The SCOR model is a framework that links processes, metrics, best practices and technology to improve supply chain management.

A key component of high-performance supply chain solutions are scorecards. With scorecards, managers can not only monitor performance for key performance indicators (KPIs), but they can also take advantage of an extra level of detail that displays results against pre-established targets and tracks changes in performance to determine whether they are neutral or part of a trend. Managers are easily directed to the indicators that need immediate attention or are getting worse, so they can set up initiatives and projects to correct or improve performance.

In addition, scorecards help managers understand how their supply chain supports strategic goals. This knowledge helps them set up and monitor the appropriate key performance indicators (KPIs) and ensure that end-to-end activities support these goals.

Supply chain scorecards also support the SCOR model, integrating the SCOR elements that help managers monitor processes and measure supplier, production and delivery performance based on industry standards. The SCOR model describes the business activities associated with all phases of satisfying a customer's demand.

The model itself is divided into several sections and is organized around the five primary Management Processes of plan, source, make, deliver and return. This provides a common set of definitions that can be used for supply chains that are very simple or for complex chains that link disparate industries. The diagram in Figure 1 provides an overview of how these Management Processes span the complete supply chain.

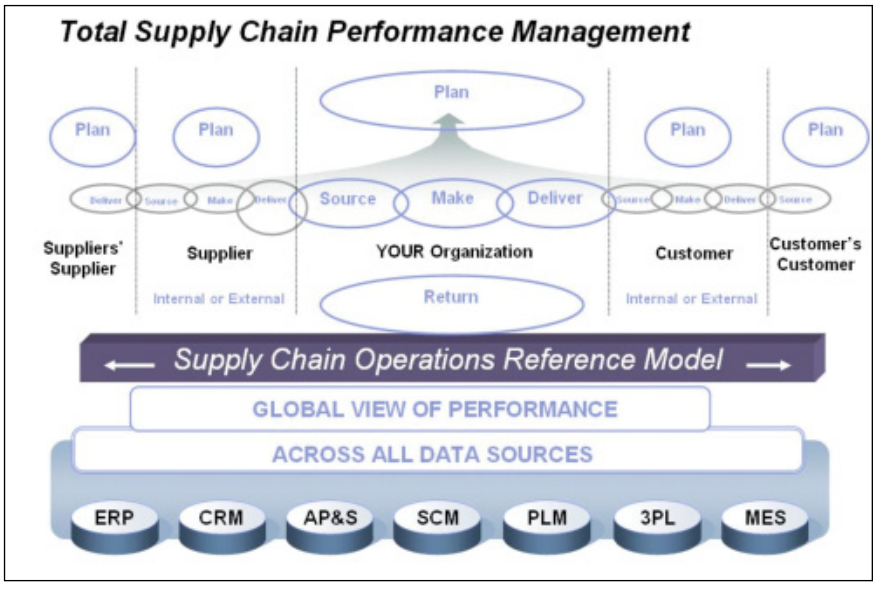

Figure 1. SCOR The Management Processes and the supply chain

A key aspect of the SCOR model is its set of Performance Attributes:

- Reliability
- Responsiveness
- Agility
- Cost
- Assets

Performance Attributes are characteristics of the supply chain that permit it to be analyzed and evaluated against other supply chains with competing strategies. Many view the Performance Attributes as a type of balanced scorecard view of the supply chain with the first three attributes (Reliability, Responsiveness and Agility) as customer-facing attributes and the last two (Cost and Assets) as internal-facing attributes. Figure 2 provides this balanced view of the attributes.

SCOR Performance Attributes

	Attribute	Strategy
Customer	Reliability	Consistently getting the orders right, product meets quality requirements
	Responsiveness	The consistent speed of providing products/services to customers
	Agility	The ability to respond to changes in the market (external influences)
Internal	Cost	The cost associated with managing and operating the supply chain
	Assets	The effectiveness in managing the supply chain's assets in support of fulfillment

Figure 2. SCOR Performance Attributes

Without these characteristics, it is extremely difficult to measure performance on the processes most critical to satisfying customers and managing cost. When these characteristics are used as a basis for scorecards, they help provide organizations with a comprehensive view of their supply chains. These attributes and the five management processes are key aspects of the *SCOR Blueprint*.

Blueprint Objectives

The SCOR Blueprint follows the methodology of the Reference model as defined by the Supply Chain Council. The objective is to help organizations make significant improvements in their supply chain processes to drive lower costs and higher profit. The *SCOR Blueprint* provides:

- A fully developed model wrapped around best practices from Supply Chain Council
- A pre-defined metrics database with all of the more than 400 SCOR metrics pre-defined
- A visual representation of the framework that links business process, metrics and best practices
- A full representation of the metrics relationships and hierarchies
- Impact diagrams for navigating up, down and through the metrics hierarchies
- The ability to drill through the impact diagrams for easy root cause analysis
- Standard performance reports and analytics
- Alerts for metrics that are underperforming or trending down
- Dashboards to drive insight into underperforming metrics
- Defined metrics ownership and responsibility:
  - Drive accountability and collaboration
  - Assign and track corrective projects
- Automates the strategy management and scorecarding process
- Links strategy to execution

SCOR portal

The SCOR dashboard (Figure 3) is the launching point for access to all content in the *SCOR Blueprint*. The top of the portal has links to specific business intelligence (BI) as outlined by the numeric references in red. The bottom of the portal has navigation directly to the BI and Metrics in the *Blueprint*.

Refer to the red numbering for additional information:

1. Scorecard Performance Report
2. Strategy Performance Summary and Overview
3. Export Project Information to Excel
4. Scorecard Overview
5. Strategy Trend Analysis
6. Projects Status Report
7. Strategy Performance Over Time
8. Metric Performance-detail report for drill down.
9. The SCOR Performance Attributes image is a link to the SCOR Metrics Studio.

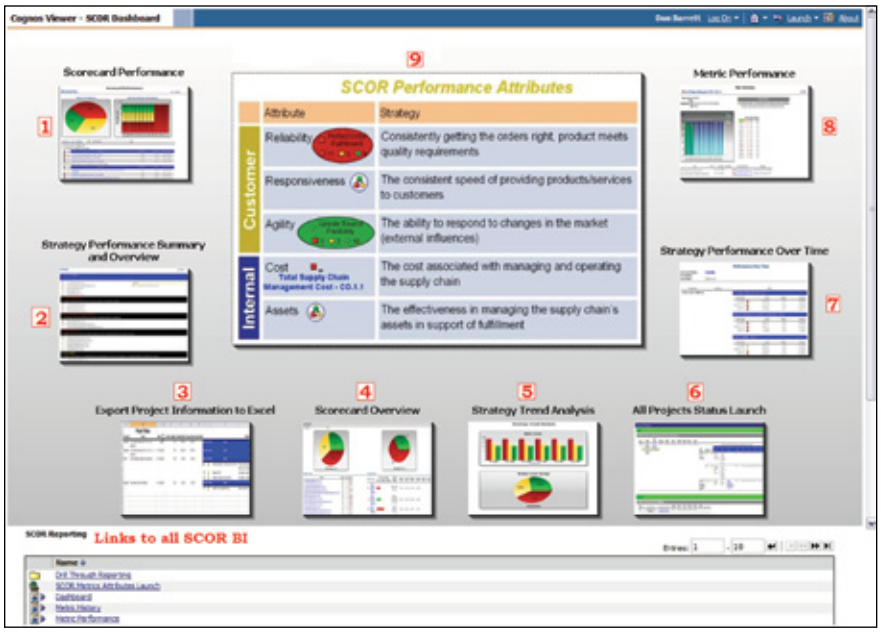

Figure 3. SCOR Blueprint dashboard

Scorecard Performance

Scorecard Performance (Figure 4) presents a current breakdown and overview of a selected time period (upper left bar chart and bottom detailed list) and a historical trend graph of the selected time period for a yearly trend (upper right stacked bar chart):

1. You can organize the metric list by the grouping defined in the selected Scorecard.
2. A detailed drill-through report (Metric Performance) is provided for each individual metric.

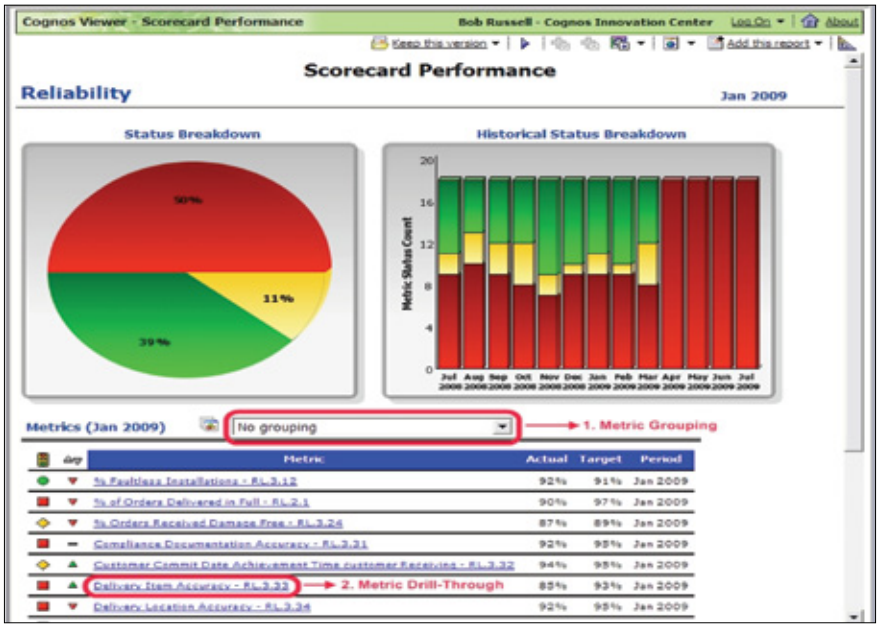

Figure 4. Scorecard Performance

Performance Summary and Overview

Performance Summary and Overview (Figure 5) shows all status and trends of the selected strategy for the selected time period as well as providing Initiatives (Project Status Launch Drill-Through) and individual Metric Drill-Throughs (Metric Performance) for each individual metric.

1. A detailed drill-through report (Metric Performance) is provided for each individual metric.
2. A detailed drill-through report (Project Status Launch) is provided for each individual metric initiative.

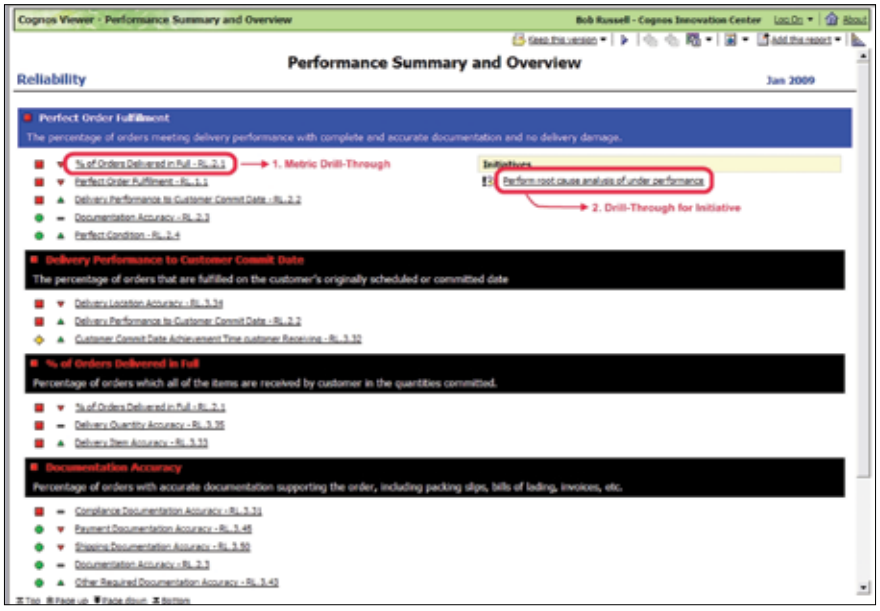

Figure 5. Performance Summary and Overview

Export Project Information to Excel

Export Project Information to Excel (Figure 6) was designed to open any projects-related information in Microsoft® Excel® for exportability options.

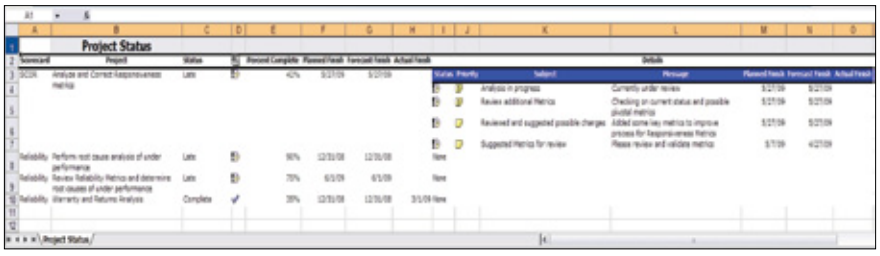

Figure 6. Export Project Information to Excel

Scorecard Overview

Scorecard Overview (Figure 7) shows the list of metrics for the scorecard along with any associated projects in detail:

1. An option is provided for changing the scorecard with a drop-down list on the fly.
2. A detailed drill-through report (Metric Performance) is provided for each individual metric.
3. A detailed drill-through report (Project Status Launch) is provided for each individual scorecard project.

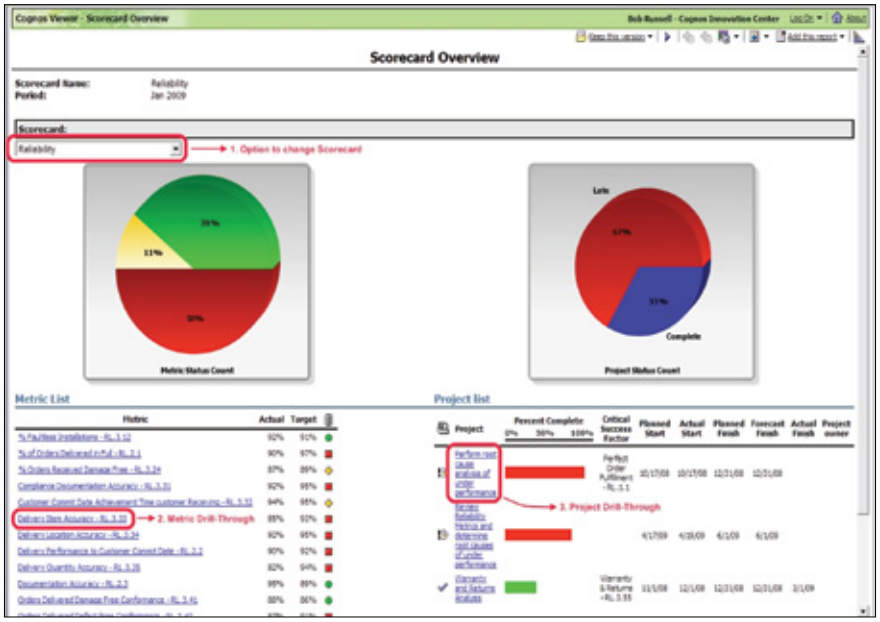

Figure 7. Scorecard Overview

Strategy Trend Analysis

Strategy Trend Analysis (Figure 8) shows an overview of the metric counts in relation to performance for the selected strategy and time period:

1. The Metric Count Bar Chart (upper middle) has two drill-through options (SCOR Exceptions and Strategy Objective Analysis).

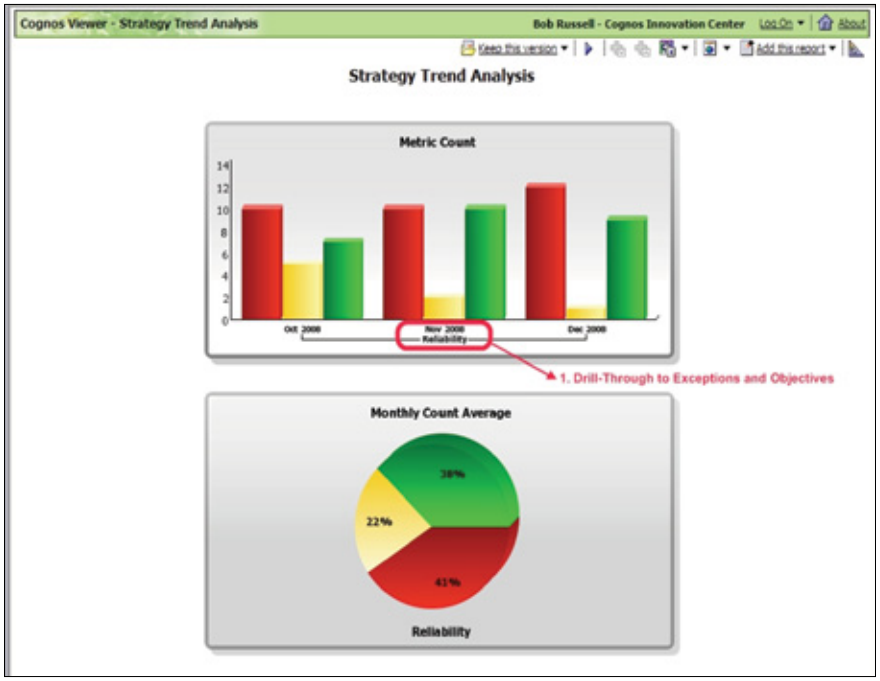

Figure 8. Strategy Trend Analysis

SCOR Exceptions (Figure 9) shows detailed information about any poor performing metric or project on the basis of the selection criteria and for the respective strategy and time period.

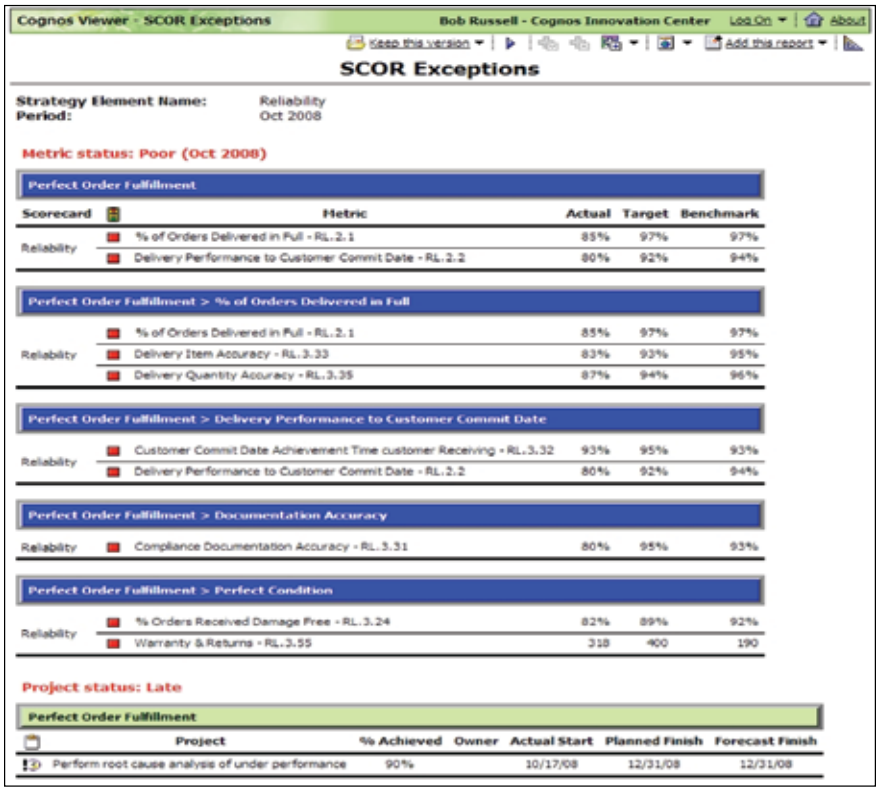

Figure 9. Score Exceptions report

Strategy Objective Analysis navigates to the lower level objectives for its respective strategy. After launch, you can also navigate the Strategy Objective Analysis report to go to the third level objectives. You can also go to the SCOR Exceptions report for its respective third level objective and time period.

Project Status Launch

Project Status Launch (Figure 10) displays detailed information about selected Projects and Metric Initiatives. The report has three drill-through options for lower level detailed information:

1. When you click the message graphic (upper left message icon), the Project Comments drill-through report opens. It details any additional comments for the specified project.
2. After you click the Critical Success Factor link (upper center column), the Metric History drill-through report launches for the respective metric, displaying an analysis of the metric over time.
3. After you clicking the Critical Success Factor link in the Details list (Right Critical Success Factor column in details), the Metric History Drill-Through report launches for the respective metric, displaying an analysis of the metric over time.

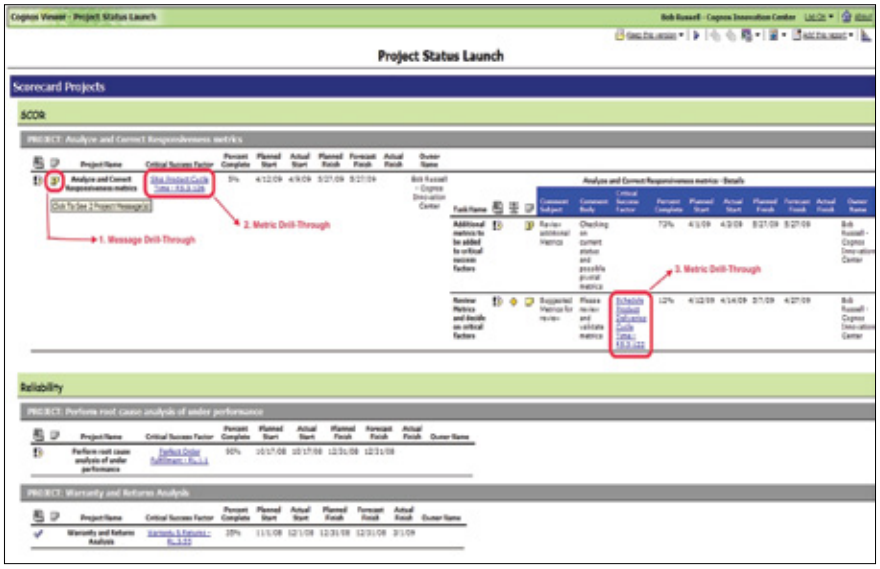

Figure 10. Project Status Launch

Performance Over Time

Performance Over Time (Figure 11) provides a break down of each selected strategy and its objectives while showing respective To Date historical trending data with the selected time period:

1. A detailed drill-through (Scorecard Overview) is provided for the selected scorecard.

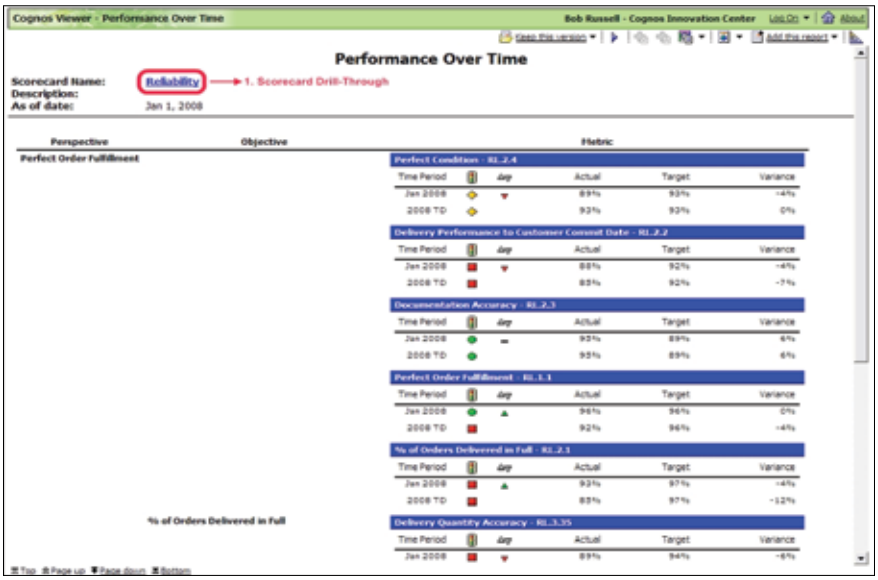

Figure 11. Performance Over Time

Metric Performance

The Metric Performance (Figure 12) report provides detailed information using a yearly trend for a single metric that also includes Comment History and any metric initiatives:

1. A drill-through (Metric Performance) is provided for any impacting metrics.

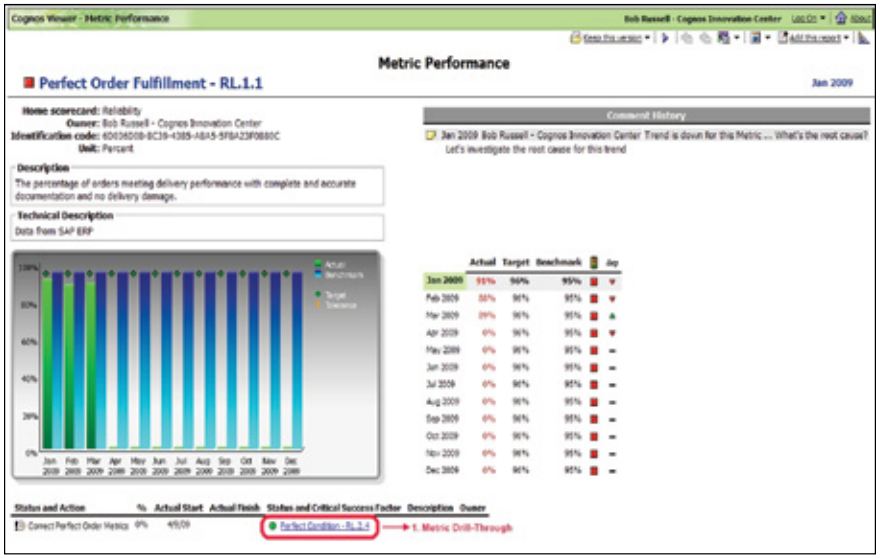

Figure 12. Metric Performance report

The Metric History (Figure 13) report from the navigation portlet displays a trending analysis based on actual and target information for the Time Level selection. The Time Level choices for this report are Year, Quarter and Month.

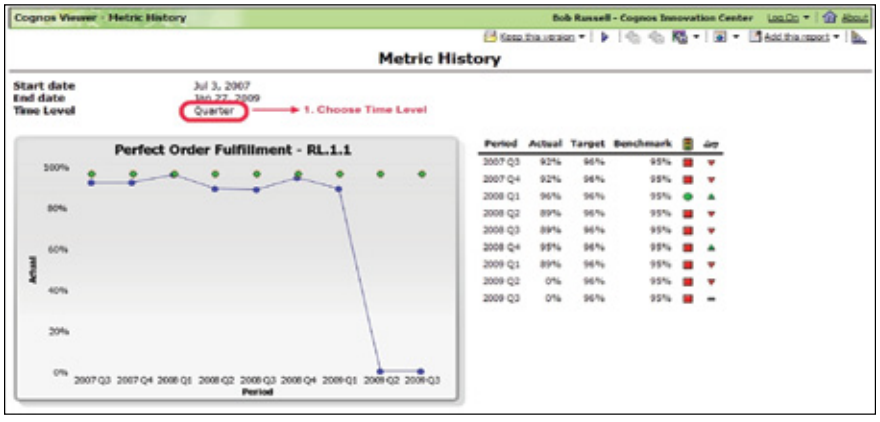

Figure 13. Metric History report

Link to the Metrics Studio SCOR Application

The SCOR Performance Attributes image (Figure 14) is a link to the SCOR high level impact diagram.

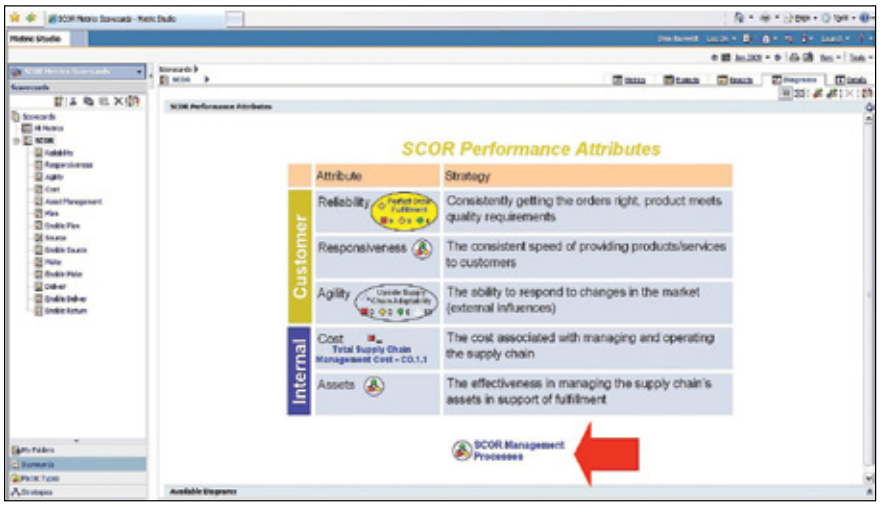

Figure 14. Link to SCOR high level impact diagram

Click SCOR Management Processes to view that diagram (Figure 15).

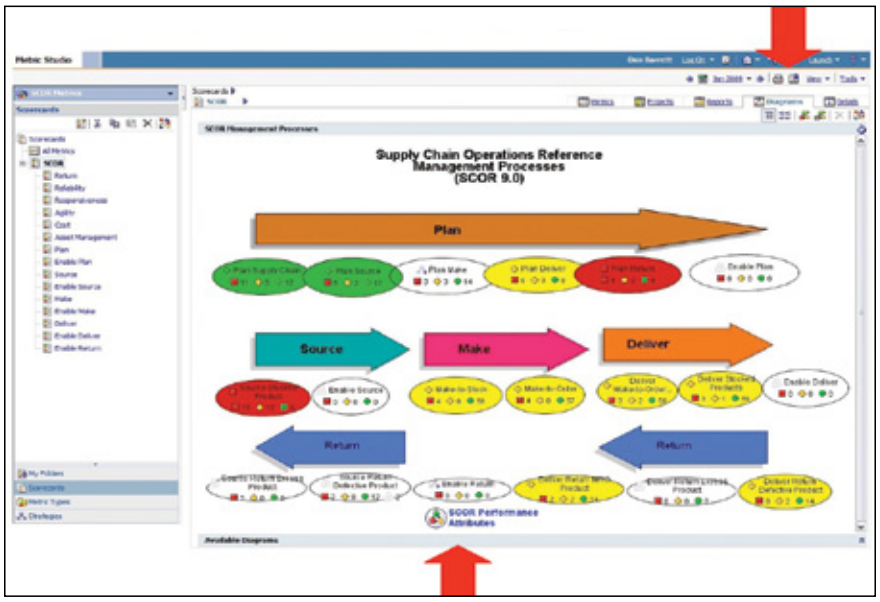

Figure 15. Supply Chain Operations Reference Management Processes diagram

Click SCOR Performance Attributes to return to the Attributes diagram. There are other sample diagrams in the Blueprint (Figures 16 and 17).

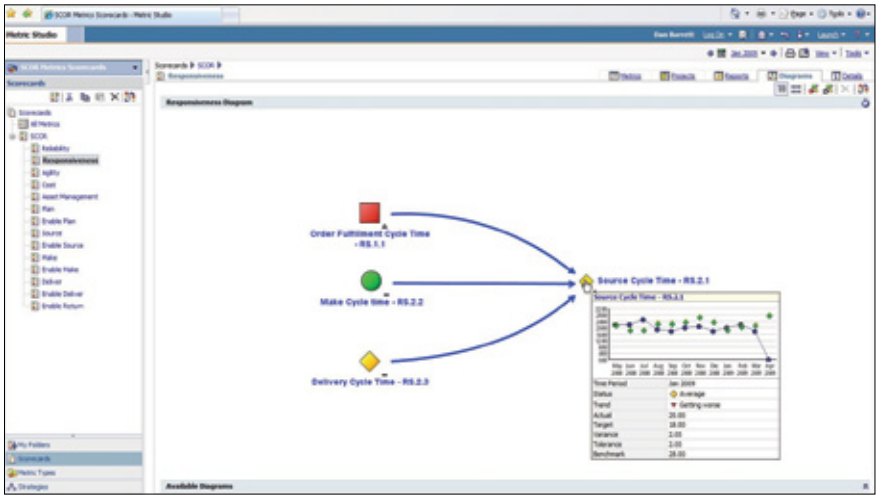

Figure 16. Responsiveness diagram

Figure 17. Impact diagram

Clicking the Reports tab provides some standard reports. Figure 18 shows an example.

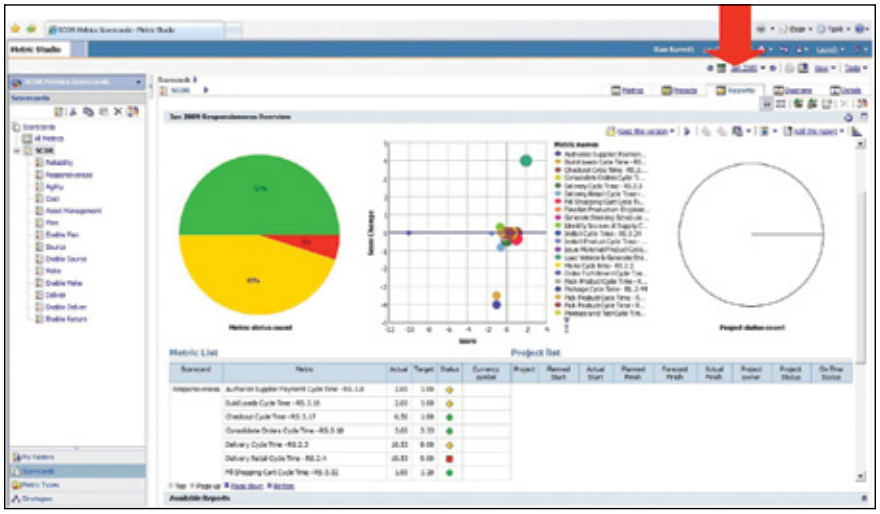

Figure 18. Responsiveness report

Clicking the Projects tab provides insight into any projects that have been defined for the strategy. Figure 19 shows an example.

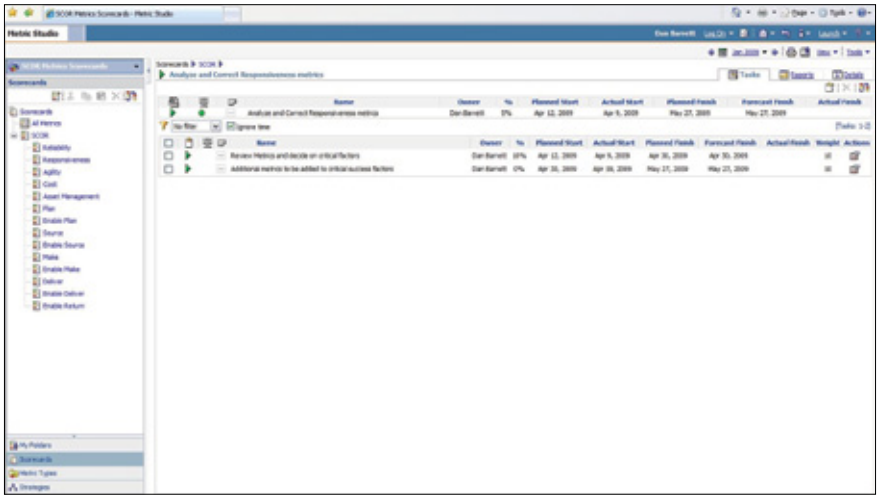

Figure 19. Analyze and Correct Responsiveness metrics

Clicking the Strategies area gives you visibility into the hierarchy of the selected strategy or attribute with the ability to focus on how each of those metrics are performing. Figure 20 shows an example.

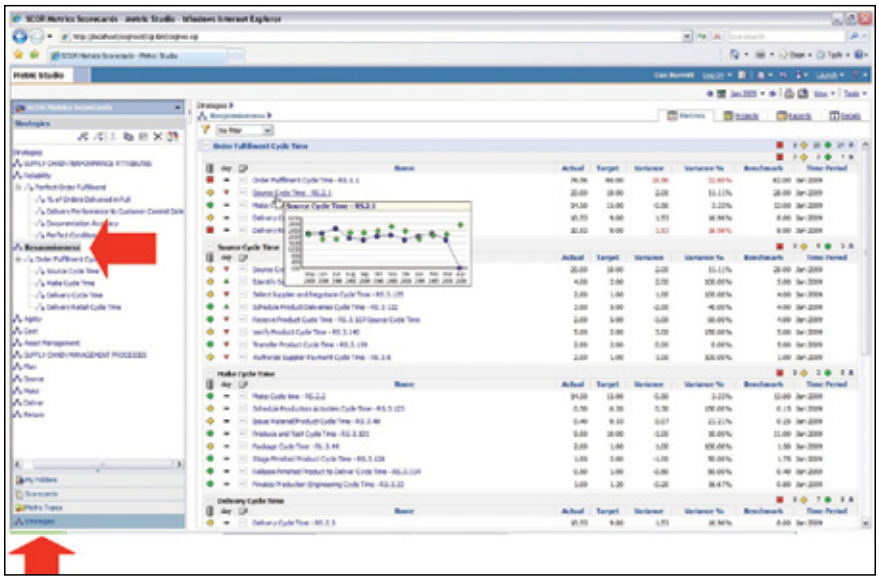

Figure 20. Source Cycle Time performance

Summary

Orchestrating today's complex supply chains requires more than just mastering logistics. Organizations have invested millions in ERP systems and supporting software applications to help them improve the performance of their supply chains. This approach has improved efficiencies, centralized data storage and collection and streamlined key processes. At the same time, these systems have not delivered what supply chain managers truly need–complete visibility of every aspect of their supply chain.

Using the *SCOR Blueprint*, supply chain professionals have greater visibility into their supply chain performance in relation to their targets and external benchmarks. The Blueprint can also be used with other IBM Cognos supply chain solutions to enable an integrated approach to supply chain management.

Some of the many benefits are:

- Better visibility to drive down cost and improve service
- More customer responsive supply chain as issues affecting supply can easily be identified and corrected
- More proactive approach based on effectively, timely, actionable view of information from your transaction systems

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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.

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