Supporting the Innovative SCOR Model with a Balanced Scorecard

The Supply Chain Council’s SCOR model is an innovative concept for the interpretation and visualization of supply chain processes and associated metrics.

Financial performance has been the primary measure of success in most supply chains. Companies have developed reporting systems and financial statements for measuring their supply chain performance on a monthly, quarterly, and annual basis. Companies, however, have not done as well a job developing effective real-time or near real-time supply chain performance measurements. There is a need to establish dynamic supply chain performance measurements and measurement-enabling systems to effectively manage supply chain operations and meet financial and non-financial business objectives. Setting objectives, tolerance limits, developing action plans, allocating resources, assigning responsibilities, implementing plans, and measuring performance for feedback and corrective action are all part of a close looped Supply Chain Management process.

SAP offers a supply chain performance measuring solution that enables organizations to monitor planning, procurement, manufacturing, and fulfillment key performance indicators in a Balanced Scorecard framework.

The Balanced Scorecard

In 1996 Robert S. Kaplan and David P. Norton co-authored the book _The Balanced Scorecard_. It shows how managers can use the Balanced Scorecard tool to mobilize their people to fulfill the company’s mission. More than just a measurement system, the Balanced Scorecard is a management system that channels core competencies and emerging technologies toward strategic goals and business objectives. The Balanced Scorecard can be used to both guide current performance and target future performance. It utilizes four categories, or “perspectives,” to align individual, organizational, and cross-departmental initiatives for meeting objectives.

**The Supply-Chain Operations Reference Model**

In the same year, the Supply Chain Council (SCC) was formed. It was organized by Pittiglio Rabin Todd & McGrath (PRTM) and AMR Research. The SCC developed The Supply Chain Operations Reference model (SCOR). The model was developed to describe the business activities associated with all phases involved in satisfying customer demand. The model is organized around the four primary Supply Chain Management processes of PLAN, SOURCE, MAKE, and DELIVER. Within each section a hierarchy of metrics have been established. At the highest level (Level 1) the measurements are stratified into four diagnostic elements:

**Reliability**
- Delivery performance
- Order fulfillment performance
- Perfect order fulfillment

**Flexibility & Responsiveness**
- Supply chain response time
- Production flexibility

Cost
- Total Supply Chain Management cost
- Valued-added productivity
- Warranty cost or returns processing cost

Assets
- Cash to cash cycle time
- Inventory days of supply

At the process category level (Level 2) the measurements are stratified into four diagnostic elements for each specific PLAN, SOURCE, MAKE and DELIVER process. (See Figure 1).

**Supply Chain Performance Management Solution**

The opportunity that the Balanced Scorecard and the SCOR model together present is one of a disciplined, organized, and systemic means of effectively measuring supply chain performance.

mySAP SCM solutions can help companies take advantage of this opportunity. The solutions support Supply Chain Performance Measuring (SCPM) with Balanced Scorecard functionality utilizing the Corporate Performance Monitor (CPM) component in the Strategic Enterprise Management (SEM) application. The SCPM solution integrates supply chain planning and execution with real-time supply chain performance measurement and benchmarking using key performance indicators. It monitors and displays key indicators associated with supply chain performance, including costs, assets, and objectives. It also

Paul Pretko is a Supply Chain Solution Principal at SAP America. He is a supply chain technology and operations leader with over 16 years of comprehensive experience in manufacturing and distribution environments, executing supply chain improvement strategies through technology in a broad range of corporate and partner positions. He focuses on enabling efficient supply chain operations with mySAP Supply Chain Management solutions.
Performance Management

The SCPM presentation layer includes:

Strategic Planning Measurement Layer
The Strategic Planning Measurement Layer enables you to effectively implement and operate management processes throughout the supply chain. It enables knowledge sharing and learning to continuously improve your strategy and optimize its execution. It allows management to analyze, monitor, optimize, and communicate strategy both to supply chain employees as well as to external partners. The layer includes the Management Cockpit, Scorecard Overview/Analysis, and Measure Analysis.

Tactical Execution Measurement Layer
The Tactical Execution Measurement Layer enables you to compare your plans with your actual supply chain results, so you know when something goes wrong in a dynamic supply chain environment. The approach provides a complete window into the details of Supply Chain Management processes. The layer includes the Supply Chain Cockpit and Business Explore Analyzer.

Most supply chain improvement objectives include cost reduction, increasing asset velocity, increasing revenue, and improving service.

Impact on Costs
- Increased automation, maximizing the efficiency of order processes, and other administration functions
- Integration with e-marketplaces, allowing you to quickly and easily compare suppliers on a global basis
- Cost-effective matching of supply and demand through integrated planning tools

Impact on Assets
- Reduced order cycle times, speeding the conversion of materials into revenue
- Reduced inventories – without reduced ability to meet unexpected demand; instead of investing in material, you can invest in your company’s future

more on the web
Read more about the added value of metrics and performance in SAP's Solution Provider Profile at the ASCET website, http://sap.ascet.com

Figure 1 – SCOR Level 2 Metrics in a Balanced Scorecard

SOURCE Perspective
Increase Flexibility
- Source Lead Time
Reduce Cost
- Acquisition Cost
Increase Reliability
- Defective PPM
Increase Asset velocity
- Inventory Day-of-Supply

SCM Strategy
Enable cost reductions
- customer service improvements
and asset utilization increases
with mySAP SCM solutions

DELEIVER Perspective
Increase Flexibility
- Published Lead Time
- Fulfillment Cycle Time
Reduce Cost
- Order Management Cost
Increase Reliability
- Fill Rate
Increase Asset velocity
- FG Inventory Days Supply

MAKE Perspective
Increase Flexibility
- Re-plan Cycle Time
- Changeover Time
- Manufacturing Time
Reduce Cost
- Value Added Productivity
- Average Plant Salary
- Plant Cost per Hour
- Head Count Ratio
- Unit Cost
- Overhead Cost
Increase Reliability
- Warranty Cost
- Delivery-to-Request date
- Yield
Increase Asset velocity
- Asset Turns
- Capacity Utilization
- Aged Inventory
- WIP Days Supply

PLAN Perspective
Increase Flexibility
- Source/Make Cycle Time
- Re-plan Cycle Time
- Cash-to-Cash Cycle Time
Reduce Cost
- Order Management Cost
- Planning Cost
- Inventory Carrying Cost
- Value Added Productivity
- Obsolete Inventory
Increase Reliability
- Forecast Accuracy
- Delivery Request date
- Fill Rate
- Data Accuracy
Increase Asset Velocity
- Return on Assets
- Capacity Utilization
- Inventory Days Supply

Impact on Costs
- Increased automation, maximizing the efficiency of order processes, and other administration functions
Performance Management

Impact on Revenue
- Greater planning accuracy and real-time location of products across the globe, enabling improved customer service
- Detailed and accurate order status information, resulting in higher customer satisfaction
- Faster responsiveness to unanticipated demand
- Higher utilization of manufacturing capacity

Impact on Service
- The ability to react to changing market conditions and customer requirements fast and efficiently
- The insight to move from a supply-centric to a customer-centric demand chain, in which actual customer demand drives production and replenishment
- The power to collaborate with partners and optimize supply planning and execution across enterprise boundaries

mySAP Supply Chain Management Performance Measuring can utilize a SCOR Balanced Scorecard to deliver visibility into supply and demand among all supply chain partners. SCPM provides responsive feedback that enables you to more efficiently plan, source, make, and deliver.

Investments in Supply Chain Management software implementations, re-engineering, and change management require companies to provide evidence to shareholders on ROI in both the short term and long term. Companies need a measurement solution that highlights key performance indicators in the supply chain and identify causal relationships to make suggestions for appropriate corrective action.

mySAP Supply Chain Management offers performance management tools to help you optimize all supply chain processes. A built-in command and control center lets you closely monitor the entire supply chain. Its customizable graphical environment provides alerts and lets you access all SCOR metrics in PLAN, SOURCE, MAKE, and DELIVER perspectives.

The solution integrates planning and execution functions with key performance information. It supports online analytical processing and multidimensional views, allowing you to explore data at various levels of detail and in various SCOR perspectives. Planners can automatically receive alerts in the event of deviation from performance goals.

Conclusion
Defining overall supply chain strategies and goals on the basis of key performance indicators defined in the SCOR model with a Balanced Scorecard can allow companies to easily measure supply chain activities. The SCOR/Balanced Scorecard combination can enable organizations to evaluate supply chain improvement opportunities and set new performance targets.

mySAP SCM solutions enable the five steps to supply chain performance results:
- Establishing measurable supply chain objectives by process
- Measure current supply chain performance
- Identify problem supply chain performance areas
- Develop supply chain initiatives with resources and responsibilities for solving the problem performance areas
- Measure supply chain performance on a regular basis, looping back to step three.