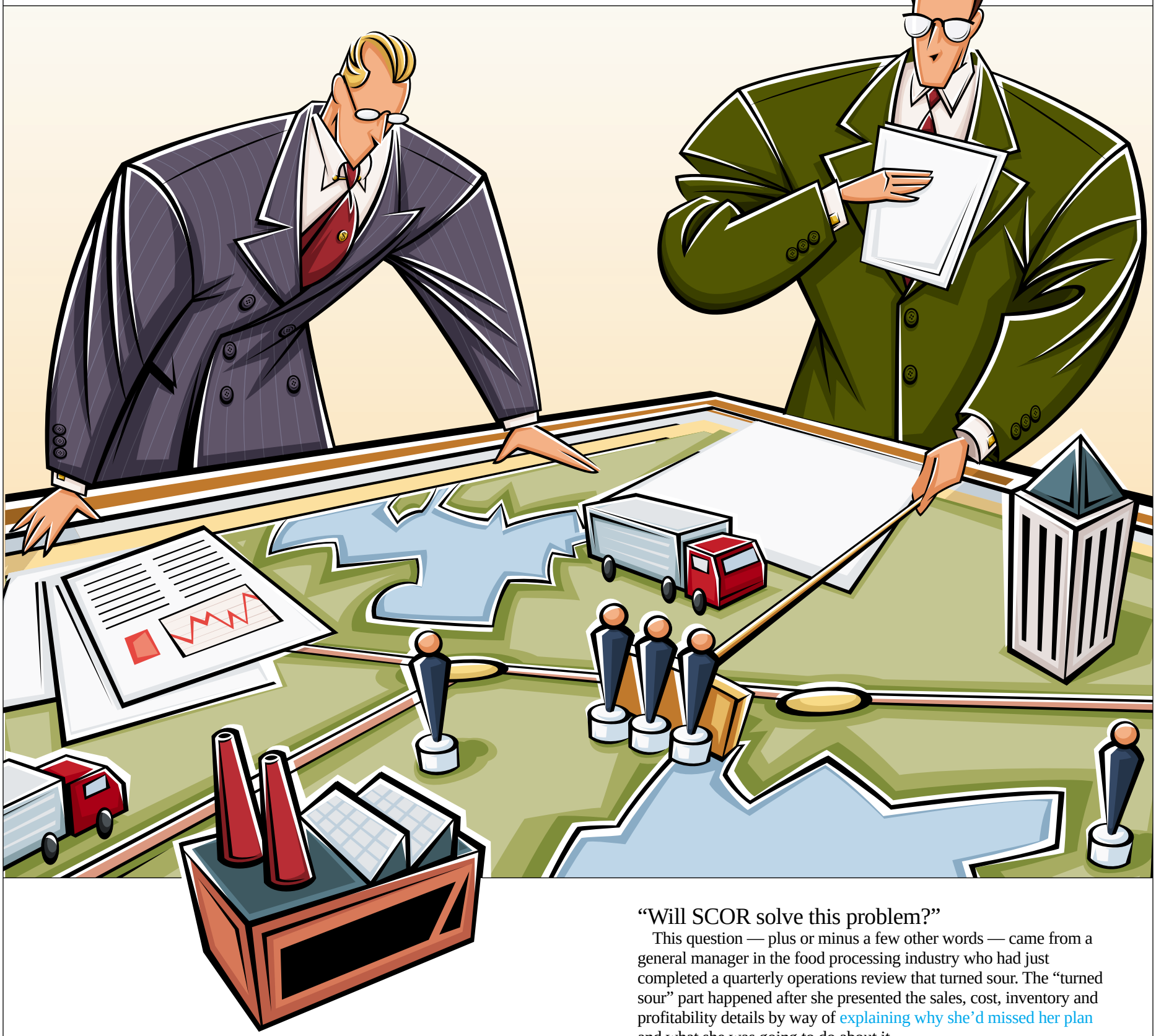
How to design a business blueprint



Build a process-driven operations review by defining business requirements.

by Peter Bolstorff

"Will SCOR solve this problem?"

This question — plus or minus a few other words — came from a general manager in the food processing industry who had just completed a quarterly operations review that turned sour. The "turned sour" part happened after she presented the sales, cost, inventory and profitability details by way of explaining why she'd missed her plan and what she was going to do about it.

As in the past, the gaps were not recognized until late in the quarter and high-level plans were slapped in place. Normally, this was fine, but in this particular quarter the company was feeling under the gun so the executive team pressed the general manager for more details.

Her question to me about SCOR came about because she was a steering team member for a SCOR project that was about to begin the **Work and Information Flow Design** phase. Before I relate how I answered the question, let me first provide a brief background on quarterly operations reviews, as well as the project itself.

For those of you who haven't had the opportunity to deliver an operations review to senior management, here are some key challenges.

First, you must be able to compare the actual top-line revenue to your forecasted top-line and be ready to explain any gaps.

Second, you must compare your actual costs — both direct and indirect — to your forecasted costs; if you are short on top-line, you will most likely need to explain why spending did not slow to compensate for the shortfall.

Third, you must compare actual inventory turns with forecasted turns and be ready to explain gaps in either service or excess inventory. Usually there is a month lag in actual data, and after the update, you have about a week to prepare. As a consequence, in many companies today, gathering, analyzing and preparing data to "explain gaps" is treated as an event and not a process.

Event-driven operations reviews: 1) spend a disproportional amount of time collecting and formatting data versus analyzing; 2) create a flurry of action (events) to "close the gaps"; and 3) focus business-leader thinking on events instead of cause and effect.

To complicate matters, organizational responsibility may be blurred between business units who own the P&L (profit & loss) and central functions who operate the processes, creating conflict and finger-pointing.

Defining business requirements for process-driven operational reviews is easier said than done. It takes courage. In the case in question, the executive team made the decision to invest in using SCOR to define how their business processes would operate in advance of an upgrade to their enterprise resource planning (ERP) system that added functionality for advanced planning.

The motives were these: self-fund the technology investment through supply chain savings; design a "business blueprint" to leverage more functionality faster and leverage out-of-box software functionality (no new customizations); and improve real-time business management.

The answer to the original question is a resounding "NO!"

What is SCOR?

The **Supply Chain Operations Reference** model, developed by the *Supply-Chain Council*, provides a standard methodology for managing supply chain projects.

About SCOR

The Supply Chain Operations Reference (SCOR) model has been developed by the Supply-Chain Council and is **SCTN**'s recommended implementation model for SCM initiatives. While the author of this article is affiliated with the Supply-Chain Council, this article was prepared under the direction of **SCTN** and was not subject to prior review or approval by the Supply-Chain Council or any of its members/affiliates.

The SCOR model itself — as it resides in dictionary form — will not change anything; however, a SCOR business blueprint, effectively put into action, will.

A blueprint is the result of the Work and Information Analysis in a SCOR project and summarizes *who* performs *what* work using *what* information (system modules and sub-modules) at a defined performance level. The blueprint forms the basis for the business requirements for an application implementation.

This article will summarize a portion of a blueprint that describes the key process relationships between **plan** and the execution processes of **source**, **make** and **deliver (return** is still evolving**)** to support a process-driven operations review.

To get the best value from the blueprint (see chart, p. 36), there are some important points to understand.

First, this is just a partial diagram; there are more bi-directional arrows which exist moving information between many more process elements than are represented.

Second, for simplicity's sake, I have not illustrated the **plan** elements in their Level 3 form (i.e., P1.1, P1.2, etc.).

Third, I have tried to simplify the inputs and outputs that are found in the SCOR dictionary based on my experience using them; a live map would utilize language consistent with the applications involved.

Finally, each blueprint is unique to the organization; swim lanes vary by size, corporate philosophy, control, etc.

Let's look now at key points for each element within the blueprint.

ALIGN SUPPLY CHAIN UNIT PLAN WITH FINANCIAL PLAN

This is the process of synchronizing the financial forecast with the unit re-plan; the unit re-plan, in this case, refers to planned units based on your demand and supply plan. For those of you who are fans of B2B consulting firm *Oliver Wight* (www.ollie.com), this step is like the **Reconciliation and Leadership Review** steps in the **Sales and Operations Planning Process**.

Without this step, a business unit runs the risk of positioning costs and assets at either of the extremes to support revenue, namely, too much or not enough. The frequency of this step is user-defined, but should occur monthly at a minimum.

The relationship between this step and the following step — Plan Supply Chain — is an "agreed upon re-plan"; without this agreement we

New products

Supply Chain Consultants Inc. (www.supplychain.com) has introduced the **Zemeter** supply chain planning solution for the **Microsoft**-based software environment. It is an integrated platform of analytical services and software that provides collaborative decision support for demand planning, inventory management, sales and operations planning, and order fulfillment.

Intermec Technologies Corp.'s (www.intermec.com) **MobileLAN** is a platform-independent network management application that enables IT managers to track, manage and ensure the availability of access points within their wireless networks. It is a scalable solution designed to work on **Windows**, **HP-UX**, **Linux** and **Solaris** platforms.

PeopleSoft 8 eProcurement from **PeopleSoft Inc.** (www.peoplesoft.com) automates the entire purchasing process from requisition to payment, giving employees self-service capabilities to purchase goods and services. New business analytics will enable purchasing managers to strategically evaluate every aspect of the procurement cycle, including their spend by category, the value of their suppliers, and the effectiveness of their workflow.

would potentially pit supply chain management against business performance.

Experience says that the most effective owner of this step is the business general manager (or the person accountable for the P&L performance). In fact, this process step helped our general manager in the earlier example to reconcile and manage costs and assets in relation to demand fluctuations before it was too late.

PLAN SUPPLY CHAIN

This is the process of taking actual demand data and generating a supply plan for a given supply chain (*supply chain* in this case could be defined by customer, market channel, product, geography or business entity). The basic steps require:

- a unit forecast that is adjusted for marketing and sales events;
- a supply plan that constrains the forecast based on resource availability (*resources* in this case could be inventory, manufacturing capacity, or transportation); and
- a balance step where demand/supply exceptions are resolved and updated on the system.

Again, for Oliver Wight fans, this step is like the new **Demand and Supply Planning** steps in the Sales and Operations Planning Process. The frequency of this step is user-defined, but should occur monthly at a minimum.

While the formal reporting structure may vary, experience says that the most effective owner of this process step is a centrally managed planning team; there is a balance of activity between demand and supply planning.

The relationship between this process step and Plan Deliver, Make and Source is a "constrained unit plan" because, without this agreement, we would potentially pit supply chain management against business performance. The process step provides more effective analytical resources assessing root cause for fluctuations in unit demand, exceptions in service, supply chain cost and inventory position.

Going back to our opening example, this step helped our general manager understand and reconcile top-line gaps and establish a course of action to re-balance costs and assets between reviews and, hence, created a P&L story based on facts.

Blueprint essentials

For you trivia buffs, the SCOR model (assuming proposed 5.0 changes) has, at its lowest level of decomposition, 72 process elements depicting the execution of work and information for **Source**, **Make**, **Deliver** and **Return**. In addition, the **Plan** category contains 20 process elements depicting the planning of work and information. Lastly, the model contains 43 process elements describing data and policy to *enable* the supply chain to plan and execute.

The blueprint effectively documents *who* is to perform the process step, what triggers the process (input), what and where does the output trigger go, and what software functionality at either the module or sub-module level supports the work. The blueprint focuses on six transaction types: sales order, purchase order, work order, return authorizations and two planning events — replenishment orders and forecasts.

PLAN DELIVER

This is the process of comparing actual committed orders with the constrained forecast generated above, and generating a distribution resource plan to satisfy service, cost and inventory goals. It is carried out for each warehouse stocking location and may be aggregated to region or another geography type. This process step is most closely associated with Oliver Wight's **Distribution Requirements Planning**.

The frequency of this step is user-defined, but should occur monthly at a minimum. This is a shared process step between Planning and Logistics; however, experience says that the most effective owner of this process step is the centrally managed planning team, as most of the activity is focused on supply planning.

The relationship between this process step and:

1) "Plan Make" are "replenishment requirements," which tell the plant manager how much product to plan for;

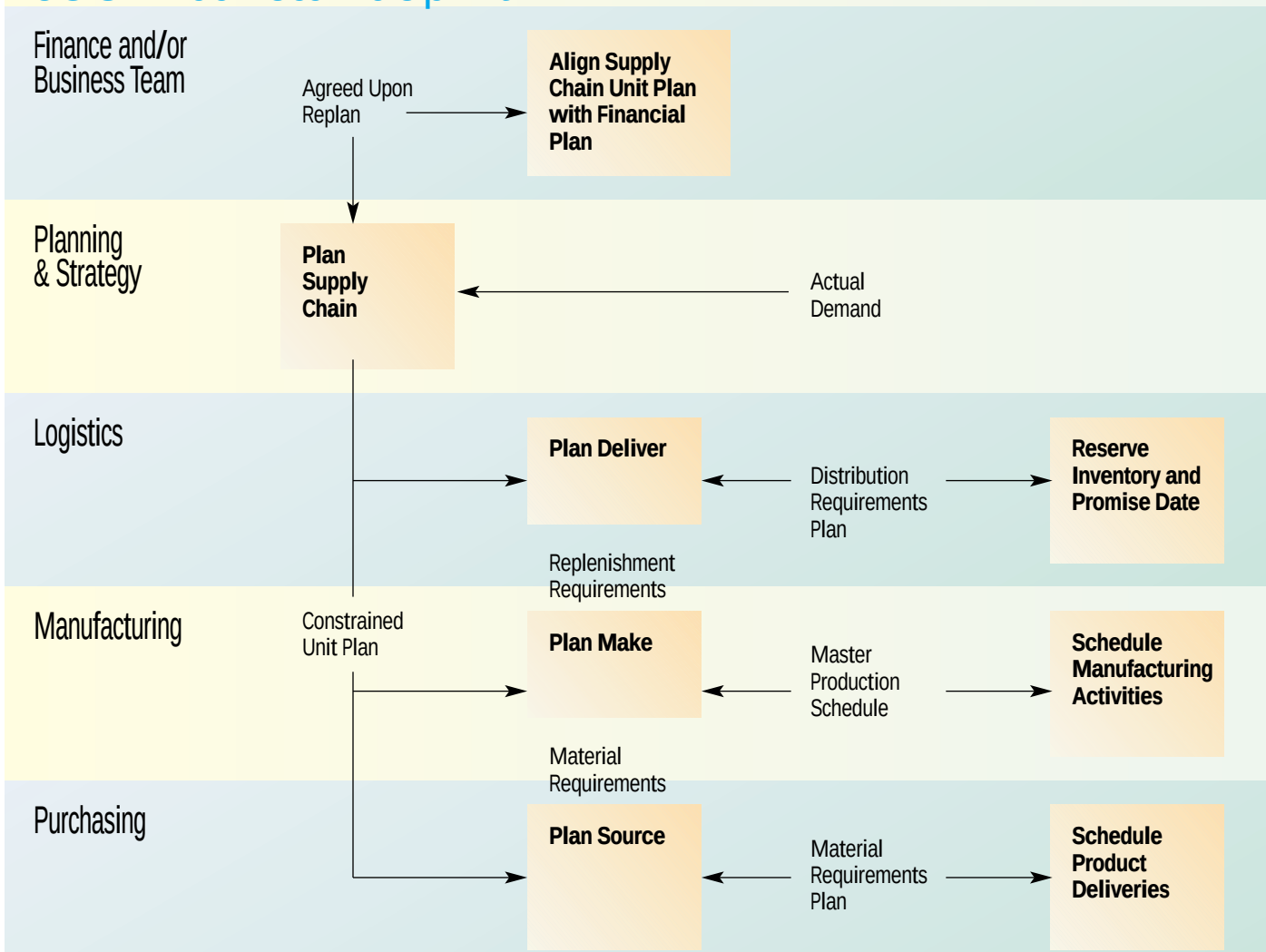
2) "Reserve Inventory" and "Promise Date" is a "distribution requirements plan," which lets customer service know how much inventory will be available to promise.

This process step helped our general manager understand the balance between inventory and service levels in specific regions, and is particularly important as new products are introduced into new markets.

PLAN MAKE

This is the process of comparing actual production orders plus replenishment orders with the constrained forecast generated above, and generating a master production schedule resource plan to satisfy service, cost and inventory goals. It is carried out for each plant location and may be aggregated to region or another geography type. This step is most

SCOR Business Blueprint



closely associated with Oliver Wight's **Master Production Scheduling**.

The frequency of this step is user-defined, but should occur at least weekly. This is a shared process step between Planning and Manufacturing; but experience says the most effective owner of this process step is the centrally managed planning team; most of the activity is focused on supply planning.

The relationship between this process step and:

1) "Plan Source" are "replenishment requirements," which tell the purchasing (or commodity) manager how much product to plan for;

2) "Schedule Manufacturing Activities" is the "master production schedule," which lets the plant scheduler know how much total product must be made by the ship date.

This step helped our general manager understand the balance between unit cost, inventory level and service levels by product family, and is important for seasonal fluctuations in demand where level loading factory schedules for future demand is critical.

PLAN SOURCE

This is the process of comparing total material requirements with the constrained forecast generated above, and generating a material requirements resource plan to satisfy landed cost and inventory goals by commodity type. It is carried out for items on the bill of materials and may be aggregated by supplier or commodity type. This process step is associated with Oliver Wight's **Material Requirements Planning**.

The frequency of this step is user-defined, but should occur monthly. This is a shared process step between Planning and Purchasing; however, experience says that the effective owner of this process step is the centrally managed planning team; most of the activity is focused on supply planning.

The relationship between this process step and Schedule Product Deliveries is the "material requirements plan," which lets the buyer know how much product must be purchased based on current orders, inventory and future requirements.

This step helped our general manager understand the balance between unit price from suppliers and total landed price, including inventory carrying and transportation cost. This is important for seasonal demand fluctuations where purchasing quantities for future demand is critical.

In fact, the courage exhibited by the executive paid off. More functionality was implemented faster and more effectively as a result of the blueprint — not that there weren't any more sour operation reviews, since bad news is still bad news.

Now, there's a different confidence level in the team members; they have a handle on the key issues and are responding to changes in the marketplace better than the competition — which is truly a sign of good supply chain management.

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www.supply-chain.org

For basic information about SCOR:
www.supplychain.org/html/scor_overview.cfm

Related articles
Peter Bolstorff's entire "Keeping SCOR" series is available in .pdf format at the SCTN website at www.supplychaintech.com.

Engineer's guide to transactional performance

Performance is measured for each transaction type, focusing on productivity. Productivity, in this case, refers to two simple concepts — **cycle time** and **yield**.

■ Cycle time is defined two ways. Event cycle time is defined as *the amount of time spent from start to finish on the task, assuming no lag time*. Elapsed cycle time is defined as *the amount of time spent from start to finish for all tasks to be completed*.

For example, it may only take three minutes to enter a purchase order on the system but two days for the approval process to complete the work. In this case, event time is three minutes and elapsed time is 48 hours. The constraint here — as I'm sure **Theory of Constraints** guru Eli Goldratt would agree — is somewhere in the approval process; if it is policy, then a slick new system will not break the constraint. Productivity is dependent on elapsed time, which is why process improvement is so important.

■ Yield is the second concept that impacts productivity. Yield is defined as *the number (or percent) of transactions that require no rework*.

The example here is the customer service representative who enters 1000 orders today and has to reenter 250 tomorrow because of credit problems, customer ID issues, item price discrepancies, data entry errors, etc. The yield in this case is 75%. The fact is that 1250 orders were processed, not just 1000. Order management and material acquisition cost (productivity) is a result of elapsed cycle time and transactional yield for sales orders and purchase orders, respectively.

New products

Manahttan Associates (www.manh.com) has released **PkMS Pronto**, an integrated warehouse and transportation management system for small- to mid-sized warehouses. The product is designed to provide decreased delivery time and increased order processing benefits.

OptiSite 1.2 site location planning software from **MicroAnalytics** (www.bestroutes.com) helps with supplier selection and where to stock products. It includes multiple map layers that can be exported and printed.

Liaison Technology (www.liaison.com) has released **Content Hub 1.0** software, designed to automate the production and management of electronic catalog content. It features process rules, process automation, intelligent exception handling, catalog customization, flexible workflow and classification functionality.

iristaTransport 8.2 from **Irista Inc.** (www.irista.com) is an integrated suite of transportation solutions, including **iristaPlan**, **iristaShip** and **iristaAudit**. New functionalities include high volume shipment planning and consolidation, transportation planning console, and freight audit ownership.