LOGILITY

Putting
Supply Chain Performance
at Your Fingertips

WHITE PAPER

Putting **Supply Chain Performance** at Your Fingertips

Leveraging supply chain analytics to boost corporate performance

Executive Summary

Supply chain teams that succeed in implementing the right set of actionable supply chain analytics have a dramatic advantage over less performance-aware planning organizations.

The goal is to provide advanced insights that focus valuable human resources on actions that have the greatest impact. By focusing on well-chosen real-time metrics, these teams proactively monitor, measure, control and correct the key drivers of business performance. Rather than running reports or populating spreadsheets, hoping to gain insight from past performance into where and how adjustments can be made to improve future efficiency, they infuse the entire supply chain management (SCM) system with the ability to sense and correct deviations from optimal performance every day. Their SCM is built on a performance management architecture.

A good performance management system translates the company's plan, which ideally spans supply, demand and finance, to the appropriate level of aggregation and time horizon.

When built into the fabric of the supply chain, the performance management function puts actionable information at the fingertips of planners, senior executives and stakeholders across the enterprise. Performance management converts huge repositories of data into easily consumed knowledge that accelerates your time-to-alert, time-to-resolution and prioritization of high-value actions. It provides vital input to the sales and operations planning (S&OP) process, and helps find the "needle in a haystack" root causes of problems, rather than just flagging the symptoms.

To become a game-changing catalyst for supply chain excellence, performance management must become part of the supply chain "nervous system," not "bolted on" as an afterthought.

A supply chain management solution should provide both predictive analytics and performance management facilities based on KPIs and performance metrics created to reflect a company's business goals.

Achieving Desired Performance through Supply Chain Analytics

Managers at strategic, tactical and operational levels often find it difficult to move out of reactive mode and onto a course of informed, proactive decision-making. Organizations turn to performance management to get ahead of the curve, generating actionable feedback based on:

■ Metrics (key performance indicators [KPIs])
■ Proactive alerts (triggered by exception conditions and sparking directed action to resolve an issue)
■ Reports pulling data from various data sources

Predictive Analytics (forward-looking scenario analyses) is often broken out as a complementary function. While performance management shows how we are executing against plan (the "state of the union"), predictive analytics provides "what-If" comparisons, ad hoc assessments and alternative going-forward scenarios.

A supply chain management solution should provide both predictive analytics and performance management facilities based on KPIs and performance metrics created to reflect a company's business goals.

A performance management architecture lets supply chain stakeholders:

■ Know what's happening in the supply chain across all stages (Plan, Source, Produce, Store and Deliver):
  - How well is the supply chain performing?
  - Is it meeting the goals that have been set for it?
■ Define KPIs that succinctly record the "vital signs" of the supply chain and reflect the company's unique business profile
■ Share a central, common, cross-functional channel of communication
■ Call attention to instances where the supply chain is not meeting objectives or performing optimally (deviating from plan)
■ Provide hard data for decision-making at S&OP meetings
■ Influence senior management decisions related to broad-based policies, corporate financial plans, competitiveness and level of adherence to organizational goals

A Performance Management architecture shows how you are executing against plan (the "state of the union").

Performance Management Foundation

Essential ingredients of a powerful performance management function include robust monitoring dashboards, automated management by exception and proactive alerts that spark immediate action to correct performance issues as they arise. As shown in Figure 1. a performance management-based architecture should be built in to all facets of the supply chain management solution.

Role-based views provide home page dashboards ("control towers") tailored to the needs of individual stakeholders:

- Macro indicators for senior executives (e.g. service level by region or by priority customer, inventory turns, key customer service issues)
- Tactical feedback for managers (order, shipment or replenishment exceptions, production issues)

Performance management should be aligned with an established supply chain model, such as the supply chain operations reference (SCOR) model, that defines a set of meaningful metrics spanning the universal "plan-make-deliver" supply chain processes.

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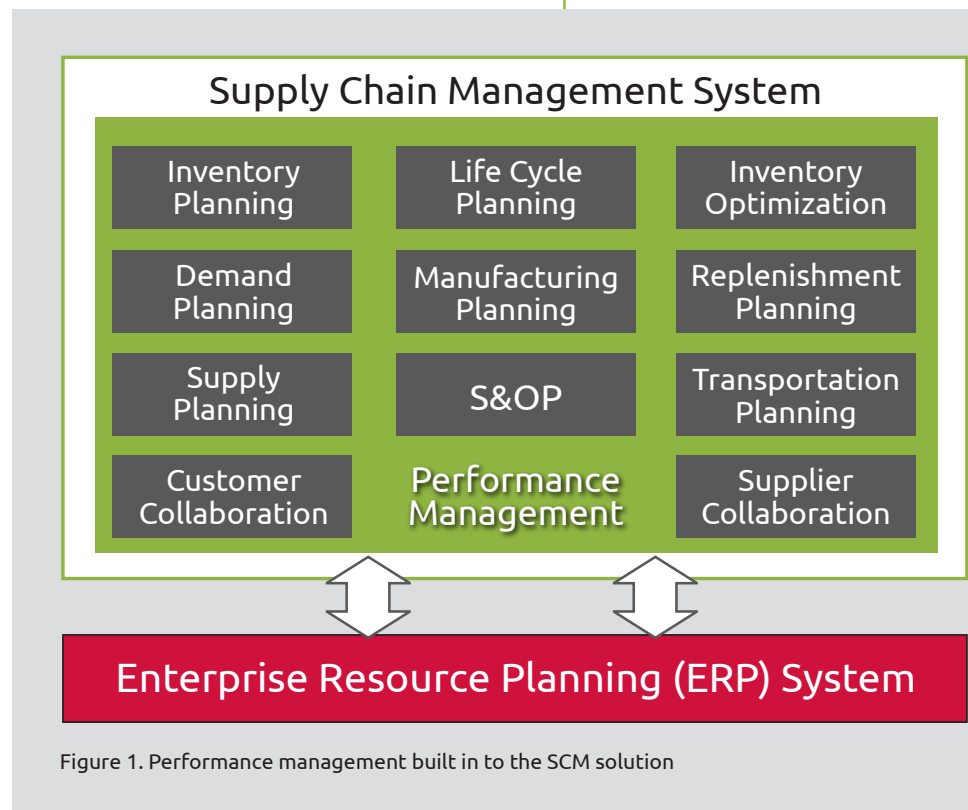

Figure 1. Performance management built in to the SCM solution

Performance Management Components

The constituent parts of an integrated performance management architecture include key performance indicators, flexible alerts, directed workflows and role-based management by exception:

Key Performance Indicators (KPIs): The Supply Chain's "Vital Signs"

KPIs are used to periodically assess the performances of organizations, business units, departments and employees. Useful KPIs are defined in a way that is understandable, meaningful and measurable.

KPI sub-categories include:

- Quantitative indicators, represented by a number
- Leading indicators predict the future outcome of a process
- Goal indicators show performance against business goals
- Lagging indicators present the success or failure post hoc
- Input indicators show the amount of resources consumed during the generation of an outcome
- Process indicators represent the efficiency/productivity of a process
- Output indicators reflect the outcome of process activities
- Directional indicators specify whether an organization is getting better or not (trend analysis)
- Financial indicators

The supply chain management system's built-in performance management facility should let planners and other users easily select and implement a wide range of pre-defined, standard KPIs. Also important is the ability to define KPIs easily that hone in on the "vital signs" of the organization's specific supply chain. For example, KPIs may reflect the importance of certain types of Days of Supply (DOS) measurements to the senior management team's sense of how well specific product groups are performing against plan.

Commonly adopted KPIs include:

- Customer-focused: Fill rate, Days of supply, Service level
- Operations: Forecast accuracy, Forecast lift, Perfect orders, Stock-outs
- Manufacturing: Production capacity, Utilization, Effectiveness
- Logistics: On-time delivery, Truck utilization
- Supply: Supplier performance
- Finance: Margin, Cost to serve, Inventory, Resource/Labor

Key performance indicators, alerts and role-based management by exception should be built in, not bolted on.

Most companies already use—or are seeking to establish—key metrics to run and analyze their businesses. The performance management architecture must make it easy and fast to create exceptions relevant to areas that are important to various members of the management team. The architecture should enable teams to take any set of data attributes and create KPIs, exceptions and alerts using comparative rules.

Alerts: The Targeted "Call to Action"

Exception-based alerting draws attention directly to deviations from strategic targets established for events within the spheres of demand planning and forecasting, inventory management, manufacturing planning, replenishment planning and supply planning. A performance management system may classify alerts by severity, such as informational, warning and critical, using color codes such as green, amber and red.

An alert's time horizon is crucial to its usage. Some alerts are more reactive in nature and provide feedback that can be used to improve future operations. Other alerts are proactive, triggering adjustments during the current cycle that improve results immediately.

Critical alerts, which may require immediate attention, are triggered when performance metrics deviate significantly from the expected value range. The system can bring this critical exception condition to the attention of a supply chain team member visually via the dashboard display, and even guide the user to the appropriate level of the supply chain management system from which to initiate corrective actions. This saves "navigation time," encourages immediate response to problems, and allows junior staffers and new employees to respond as effectively as veterans to out-of-normal conditions.

Exceptions can focus on any of hundreds of conditions that are relevant to a specific management team's business goals.
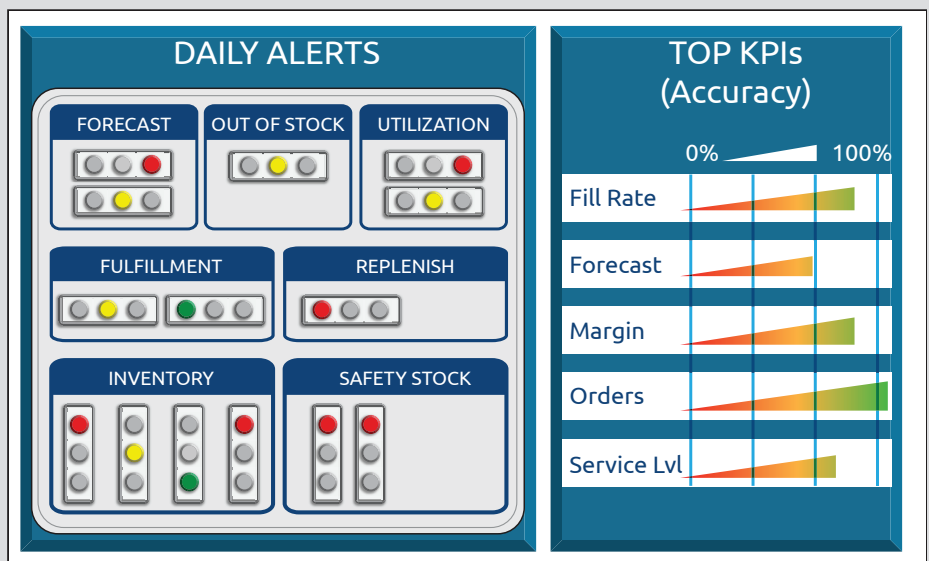

Figure 2. Conceptual dashboard-style alerts display

Role-based Management by Exception

KPIs and alerts may be tailored to different supply chain stakeholders according to their roles, and displayed via personalized home pages, or "control towers." Different groups of users get individualized benefits from the performance management architecture:
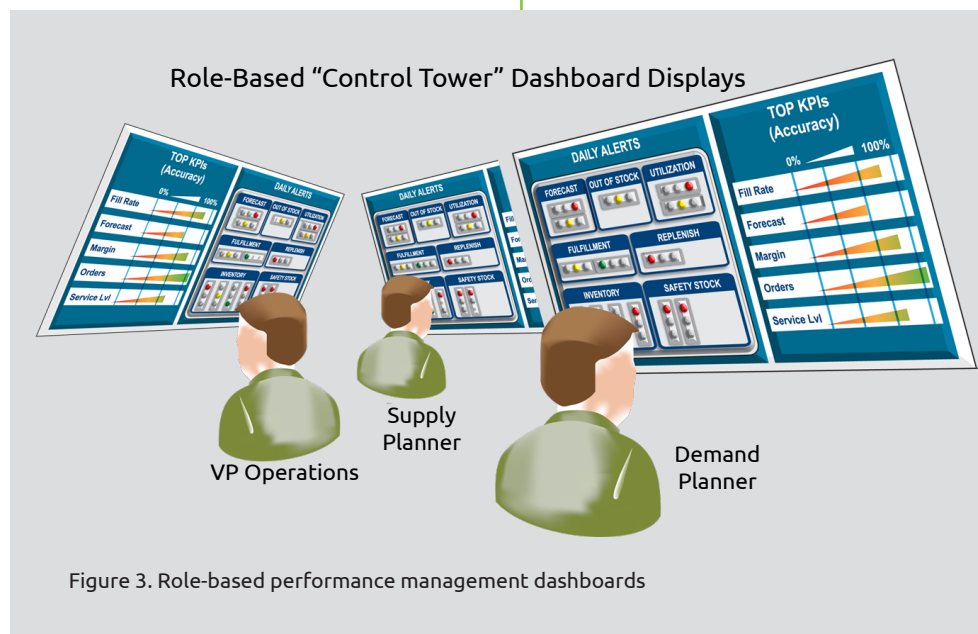
- Managers—need to recognize where the process is failing and help may be needed
- Planners—need to ensure that during their daily routines they are working on tasks that matter the most
- Executives—need access to up-to-date information on-demand

A personalized home page has the flexibility to tap into other corporate data sources to present a tailored, comprehensive view of the business.

Even though managers look at the plan from different perspectives and different levels of aggregation—and have different needs—the performance management architecture provides a "universal translation" facility that supports ONE multifaceted plan driving the company.

The combination of exceptions and KPIs can help multiple functions adjust plans regularly to keep the supply plan under control, and communicate through one centralized facility in order to "stay on the same page" across functions and geographies.

The performance management architecture provides a "universal translation" facility.

Role-Based "Control Tower" Dashboard Displays

VP Operations

Supply Planner

Demand Planner

Figure 3. Role-based performance management dashboards

Real-World Examples

One **pharmaceutical company** that faced SKU proliferation after several years of growth implemented a performance management architecture that includes individual home pages for supply chain stakeholders that display, among other metrics:

- Inventory imbalance, to assist in risk management for inventory warehoused in multiple locations.
- Days of cover: Safety stock targets are typically six months. A three-tier alert display uses green-amber-red color codes, with alerts bringing users right to the replenishment plan to facilitate quick action.
- On-hand inventory in units, and current inventory value in dollars, summarized (grouped) per product brand.
- Negative outside lead time: Used as an internal troubleshooting tool to flag potential inventory shortages.
- Demand exceeds forecast: Triggers alerts whenever demand for the month exceeds the forecast.

The company realized several solid benefits at operational and executive levels:

- For supply managers, alerts provide a welcome **new action prompt.** Prior to performance management, nothing was in place to trigger anyone.
- **Executive visibility/empowerment.** With up-to-date information available to them 24/7, senior staffers generate fewer ad hoc information requests, and supply managers now spend more time managing, less time responding or generating reports. The supply managers' travel schedules no longer slow down responding to executives.
- **Scalability.** Spreadsheets don't scale. While adding SKUs would otherwise spark a SKU management problem, the organization now has a solution that can expand to cover as many SKUs and alerts as necessary.
- **Immediacy.** Important metrics can change radically from day to day. Moving beyond monthly spreadsheet reports, now all stakeholders can effortlessly stay on top of developing situations in real-time.
- **S&OP support. Formal monthly meetings used to be based only on spreadsheets.** Performance management charts help participants address forecast accuracy and risk.

An **apparel manufacturer** employs over 70 planners, operating across ten databases. Performance Management gives the planners a "one-stop shop in the planning world" for metrics, reports and easily customizable alerts. Individual planners' home pages are filtered according to their responsibilities and provide quick hyperlinks to key reports related to any exception triggering an alert. The team now spends 20% to 30% less time "organizing" data, redirecting that time instead to trend analysis and working with customers.

With up-to-the-minute information always at their fingertips, senior staffers generate fewer ad hoc report requests.

What to Look For in a Performance Management System

- Fully integrated within the SCM system—must be "built-in" not "bolted on"
- Should be based on solid supply chain model, such as the SCOR model, that accurately spans the four basic supply chain processes:
  - Plan (including strategy)
  - Source (order)
  - Produce (make/assemble)
  - Delivery to customer
- Ability to use data from across disparate systems to create a homogenous performance management environment
- Adoption by supply chain stakeholders is a major key to success. Must be easy to tailor alerts and notifications, metrics, and more.
  - Setting up different exceptions and alerts for different users
  - Customizable, role-based dashboards
- Flexible alerting capabilities, easy to configure
  - Red, Amber, Green severity
  - Automatic links to relevant next steps

Tips for success

- Create a team that crosses product suites to define and develop an effective plan.
- Continually adjust exception tolerances to make sure there are not too many exceptions. An ABC classification approach is helpful.
- If possible, let planners create their own Control Tower displays, which helps work through their "day in life" scenarios.
- Show executive users more KPI information and a higher level of exceptions geared toward S&OP categories.
- Refresh calculations as needed to match the business planning cycle—some exceptions will need to be refreshed daily.

Performance management puts power into the hands of the people that need it: the info they need, when they need it, synthesized to the right level.

About Logility

With more than 1,250 customers worldwide, Logility is a leading provider of collaborative supply chain optimization and advanced retail planning solutions that help small, medium, large, and Fortune 500 companies realize substantial bottom-line results in record time.

Logility Voyager Solutions™ is a complete supply chain management and retail optimization solution that features a performance monitoring architecture and provides supply chain visibility; demand, inventory and replenishment planning; sales and operations planning (S&OP); integrated business planning (IBP); supply and inventory optimization; manufacturing planning and scheduling; retail merchandise planning, assortment and allocation; and transportation planning and management.

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