Advancing Lean in Supply Chain Planning with SAP Applications

By applying SAP ERP and SAP APO tools and techniques with Lean principles, manufacturers can enhance customer-centricity by creating more flexible supply chains that minimize waste, generate business value and synchronize with dynamic demand signals.

Pharmaceuticals and manufacturing companies early on learned the role Lean management philosophies can play in keeping them competitive. Effective Lean initiatives start with an understanding of what value means in the eyes of the customer; Lean then sets out to pinpoint where and how value is added. It focuses organizations on ensuring that resources are applied to deliver that value as effectively and efficiently as possible, eliminating “muda” (waste) in the process.

This white paper highlights how Lean principles and SAP’s Advanced Planner and Optimizer (APO) tool can be applied to create more effective and efficient supply chain planning processes. Not only do they help make the planning more efficient and effective, but they act as essential ingredients in achieving a truly lean supply chain - one where customer demand is anticipated and met “on time and in full” with lower overall resource requirements.

Improving Supply Chain Planning with Lean SAP

Pharma supply chain managers face challenges in managing supply chain volatility, variability, visibility and regulation, and experience continuous pressure to reduce cost. Lean is proving to be a significant asset for any planner seeking to address these challenges, from implementing short interval controls to root cause analysis and implementing countermeasures to address forecast variability.

Lean philosophies, when implemented with SAP’s APO planning tool, can also address other top inventory challenges such as accurately calculating...
available-to-promise quantities (ATP), planning for sales promotions and generally avoiding prohibitively high inventory levels. Lean and SAP ERP tools can also help in reducing waste across the entire supply chain.

Since Lean planners are typically customer-centric and value-driven at their core, they strive to develop a far greater understanding of demand signals; they are not merely focused on the number of units required and when they need to be delivered to the customer. Nevertheless, they must understand ever-changing order sizes and order frequencies as well as an array of unforeseen activities that cause customers to change their requirements over time. To get out in front of these issues, planners must start by analyzing specific product and customer demand forecasts and set up systematic continuous improvement processes to address the most consistent root causes of forecast variations.

Lean supply chain planning also involves segmenting product and customer groups in greater detail to focus the planner’s time and effort on segments where forecast variations have the most impact. SAP APO and an in-memory SAP HANA will help planners to understand demand signals and variations during a specified time period as well to segment product and customer groups. This approach improves forecast accuracy and delivers more optimal demand plans.

Turning from the demand side to the supply side, Lean techniques help supply planners to pinpoint where and how value is added and delivered. Working with manufacturing, logistics and other functions, planners can cocreate a system that handles flow at the pull of the customer. With Lean, planners gain a new appreciation for the trade-offs between manufacturing contingencies and inventory levels. With SAP APO, aggregate level planning and utilizing capacities can be leveraged to optimum levels and balance manufacturing output with inventory. An SAP APO supply network planning (SNP) deployment based on pull execution signals will provide long-term forward visibility. The results: an inventory target that is dynamically calculated based on safety stock, replenishment lead time, review period and an average demand/usage value.

Lean applies just as strongly to the planning process itself. Once a culture of continuous improvement is in place, planners will measure their own effectiveness against a “first time right” objective, reducing the amount of manual alterations made to plans. Plans self-adjust, and, where they don’t, Lean planners routinely investigate root causes of exceptions and put in place countermeasures to address them.

**Lean Principles in Supply Chain Planning**

A Lean supply chain planning process is one which is customer driven and eliminates waste in the system and planning process, thus satisfying customer demand in full and on time with minimum resources. This can be accomplished through the application of Lean management throughout the planning function.

To improve supply chain planning performance, the following Lean-influenced planning performance, the following Lean-influenced principles should be applied:

- **Enhance internal and external collaboration:** Involve customers and internal stakeholders in the forecasting and planning process; obtain consensus among sales, marketing, production, supply, finance and other stakeholders.

- **Synchronize flow:** The planning process right from sales planning to fulfillment and distribution should be tightly orchestrated.

- **Define roles and responsibilities of key players in the planning process:** Clear responsibility should be allocated to the planner based on organizational structure or geography, or at the product group level.

- **Invoke data cleansing, and at the right level of data aggregation:** Lean focuses on removing waste and using only refined, required and accurate data. Planning teams should focus on obtaining the right level of accuracy and aggregation.

- **Ensure visibility and transparency:** In the end-to-end supply chain, the planner should utilize SAP APO, which provides visibility and understanding of varying supply chain circumstances.

- **Manage uncertainty and risk:** It is also crucial to minimize primary risks. For risks that cannot be reduced, alerts and management rules are defined (e.g., change in demand, capacity shortfall) in the planning processes to enable the right people to interact and remedy supply chain exceptions.
• **Process rules:** This involves the ability to alert the planning stakeholders when there is a deviation in the plan or in the set standards (e.g., minimum inventory levels) and to have guidelines to act on these deviations.

• **Pursue perfection:** This helps improve the accuracy of the plan. Demand characteristics including actual demand, change in consumer buying behavior and external market factors need to be continuously fed as inputs to the planning process. If the plan cannot be adhered to by the shop floor, or is not used, the planning team needs to understand why and correct the process, as is appropriate.

• **Enable visual management for review and reporting:** Lean advocates that the presentation of data and information at review meetings and for reporting purposes be visually conducted with a Lean board for better impact and faster decision-making.

• **Empower employees to create a continuous improvement culture:** Lean necessitates an organization-wide focus and effort on continuous improvement of supply chain planning in order to achieve sustained performance. Lean supply chain planning also serves as a cornerstone for sustainable Lean execution at the shop floor level.

• **Identify and map the value stream:** Draw a value stream map of the supply chain mode and remove bottlenecks from the process; identify decoupling points per product type.

• **Develop quick response capability:** Understanding the causes of induced variation - through customer metrics - and creating a system to respond to variation is also crucial.

### The Seven Muda of Supply Chain Planning

There are many *muda* in supply chain planning. All can be categorized according to the categories defined by Lean management principles. Examples of Lean-typical “waste” that can be eliminated by enacting a Lean approach to supply chain planning can be found in Figure 1.

#### Key Differences in Lean Supply Chain Planning

Lean supply chain planning differs from traditional supply chain planning in the way the process is managed to drive continuous improvement and for its relentless focus on value.

<table>
<thead>
<tr>
<th>Lean Muda</th>
<th><em>Muda Examples in Supply Chain Planning</em></th>
</tr>
</thead>
</table>
| Overproduction     | • Number of plans.  
|                    | • Exhaustive data in plan.  
|                    | • Different business entities provide varying forecast figures.                                        |
| Inventory          | • New plans are produced while stakeholders are still processing previous plans.                        |
| Motion             | • Checking plans with non-stakeholders.  
|                    | • Inadequate number of attendees in meeting.  
|                    | • Reviewing data more than required.                                                                   |
| Waiting            | • Delays for planning input data such as sales, capacity, promotion, etc.                              |
| Transportation     | • Checking with new business units/product groups for their initial plans.                              |
|                    | • Organizing unjustified meetings.  
|                    | • Repeated meetings to create consensus plan.                                                           |
| Overprocessing     | • Duplication of data collection and collection of nonessential data.                                   |
|                    | • More frequent reporting of performance than necessary.                                                |
|                    | • Detailed plan that may not be required for the next planning level.                                    |
| Defect             | • Unprepared sales and operational planning (S&OP) or master production scheduling (MPS) meetings.     |
|                    | • Adjustments to plan due to inaccurate plan at first instance.                                         |
|                    | • Inaccurate master data leading to inaccurate figures.                                                 |
|                    | • Plan operationally unusable.                                                                        |

Figure 1
ability to plan and fulfill customer requirements. Lean supply chain planning, as a result of its focus on continuous improvement, elevates the organization’s ability to optimally provide enhanced value and satisfy customer requirements. The key differences between traditional and lean supply chain planning are depicted in Figure 2.

Value Generation in SAP-Enabled Lean Supply Chain Planning

Value is added at every step in the process depending on customer requirements. Understanding the requirements of each customer at different stages of the supply chain planning process is of prime importance to ensure the value is generated per that customer’s needs. A Lean supply chain planning process is designed to keep customers as the focal point. This process captures final customer requirements and creates plans to service their requirements on time. SAP NetWeaver synchronizes each customer’s requirements and feeds their input into the process. SAP Supplier Network Collaboration (SNC) coordinates both the customer and the supplier side to ensure that any change in customer requirements (in terms of SKU, quantity, delivery times, etc.) will trigger value additions in the processes. This will lead to the creation of new supply and demand plans, which adds value to downstream planning and execution processes - which, in effect, helps to accommodate new demand.

In addition to addressing changing customer requirements, Lean - with horizons and a planning time fence, coupled with safety value - also strives to reduce the number of modifications to individual plans, thus eliminating frequent changes to downstream processes. Lean supply chain planning ensures that plans are created with optimal frequency and time duration, providing the ability to capture any change in customer requirements by incorporating them in the plan, in real time. With SAP production planning and scheduling software, the supply chain planning organization can make sure that there is no undue strain on the inventory and manufacturing flexibility. SAP Global Availability to Planning (GATP) functionality provides information on when and what quantity of goods will be available to the customer.

### Traditional vs. Lean Supply Chain Planning

<table>
<thead>
<tr>
<th>Topics</th>
<th>Traditional Supply Chain Planning</th>
<th>Lean Supply Chain Planning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process</td>
<td>Focus is on periodically managing the same planning processes.</td>
<td>Focus is on continuous improvement of the planning process.</td>
</tr>
<tr>
<td>Data</td>
<td>Varied and specific to each part of the organization.</td>
<td>Focus is on required data for planning and sharing across the organization.</td>
</tr>
<tr>
<td>Plan Review</td>
<td>Reaction to new information.</td>
<td>Using auto-adjustment mechanisms by time horizons to streamline planners’ work.</td>
</tr>
<tr>
<td>Plan Accuracy</td>
<td>Plan accuracy and use not managed.</td>
<td>Tracking and continuous improvement of plan accuracy; a drive toward making-to-order by continuously working to reduce lead times.</td>
</tr>
<tr>
<td>Exception</td>
<td>Ad hoc process; analysis and actions taken on an as-needed basis.</td>
<td>Alert management for exceptions; exceptions are tracked, their root causes are identified systematically and they are prioritized in view of elimination.</td>
</tr>
<tr>
<td>Management</td>
<td>Feedback and Control</td>
<td>Systematic and organized; bottom-up feedback loop with short interval controls to identify and respond quickly to issues.</td>
</tr>
<tr>
<td>Inventory</td>
<td>Planners consider inventory as a “coproduct” of the process that needs to be calculated.</td>
<td>Planners consider inventory as a waste that needs to be eliminated.</td>
</tr>
<tr>
<td>Culture</td>
<td>Focus is on managing process and improvement; it is usually driven top down and on an as-needed basis.</td>
<td>Continuous improvement is the driving force and is usually bottom up.</td>
</tr>
</tbody>
</table>

Figure 2
Key Lean Supply Chain Planning Components

Organizations initiating a Lean supply chain planning program should consider the following success factors:

- **Understanding the customer(s) of a given planning activity and what adds value to them:** In Lean management, the value of each activity or process is measured from a customer reference point and, hence, it is essential to understand the customer(s) for the activity and what adds value to them. In supply chain planning, customers are the organization’s customers and also the plan users. The initial stages of a Lean supply chain planning program entail understanding the requirements of the plan’s customers, including total demand and profile, delivery requirements, aggregation level of the plan, and frequency of plans. In sales and operations planning, for example, it is important to understand what purpose the plan serves, who the users are, what their needs are, when they need details and with what level of detail. Only the steps required to satisfy these needs are integrated in the sales and operations planning process.

  Taking this approach makes it easier to find the right level of detail at each planning level. This focus on requirements for the standard process also means incorporating appropriate predictive elements and defining the general procedure for addressing gaps in the plan that may emerge. Any gap in the plan that requires a special process would then be analyzed to understand what can be learned from it. The natural target state for planners is no gaps in the plan, with the plan used appropriately at each level, and with no firefighting.

- **Designing the supply chain planning process around the pull of customers:** A supply chain planning process should be standardized and robust enough to manage both the regular planning cycle and any exceptions that may occur. The design of the planning process must consider the requirements of plan users and the organization’s customers. Applying Lean in planning will provide value to customers in the form of planning optimization and the elimination of all forms of waste. Figure 3, on the next page, depicts drivers that can help in transforming the supply chain planning process.

- **Coaching and empowering planning team members:** Employee coaching and empowering planners to strive for improvements in the activity they manage are key elements of Lean management that can be done using simple shared tools or visual management. This includes standards on how to forecast, where to obtain necessary information and how to process the information received. These standards must be adhered to and in some cases internal audits can be used to either improve the standards or to coach individuals applying them. Process training and Lean training for planners will help them take ownership of planning activities and work toward continuous improvement.

- **Building a Lean culture within the extended planning organization:** Lean is not a one time deployment and improvement activity. A continuous improvement mindset needs to be embedded within the organization; planners need to be genuinely empowered to make changes to activities. A Lean culture where there is top management focus, and cross-functional collaboration

Putting in place five-minute briefings and visual management will contribute to effective Lean management of the supply chain, as will the appropriate reporting, measurement, recognition and organizational structures.
with sales, finance and manufacturing, helps in achieving Lean’s long-term benefits. Additionally, it is essential that the right culture is instilled from the get-go of any Lean program. This can happen only if management is deeply involved and leads from the front of various activities in their scope. Putting in place five-minute briefings and visual management will contribute to effective Lean management of the supply chain, as will the appropriate reporting, measurement, recognition and organizational structures.

**SAP Technology Enablers in Supply Chain Planning**

SAP ERP software is a key enabler for Lean supply chain planning and helps with proper execution of the process. End-to-end planning process automation, flexibility to select appropriate forecasting models, the ability to set rules and parameters based on product demand patterns, the ability to set alerts for deviations, analytics and reporting capabilities are among the areas where SAP plays an important part in the Lean supply chain planning process.

**Applying SAP in Lean Supply Chain Planning**

Supply chains must meet the highest levels of demand accuracy and customer satisfaction, as well as fully support order, product and execution tracking, not to mention logistics. Fulfillment and transportation operations must be smoothly synchronized. Planners must balance gracefully on a tightrope between push and pull by ensuring the most profitable match possible between supply and demand.

The SAP Supply Chain Management (SAP SCM) application brings that balance through a responsive supply network that facilitates interaction among customers, suppliers and partners. The solution links business partners and processes with real-time information, enabling dynamic synchronization of demand-driven planning, logistics and supply network execution. Through integration, automation and comprehensive functionality, SAP SCM transforms supply chains from sets of linear processes into responsive supply networks. Customer-centric, demand-driven companies share knowledge, adapt intelligently to market conditions and respond proactively to customer requirements.

SAP ERP helps to adopt lean in supply chaining planning in the following ways:

---

**Supply Chain Planning’s Lean Drivers**

| Reduce Non-Value-Added Activities | - Minimize transport, stock, rework and other types of waste in overall supply chain planning.  
| Pull the Flow | - Align supply chain planning with voice-of-customer processes to reduce rework or overproduction.  
| - Find the bottleneck at the operational level to reduce non-value-add.  
| Do It Right the First Time | - Find the decoupling points at all levels (multisite, site-level, etc.).  
| - Pull customer orders to stock (define finished goods stock levels).  
| Alerts | - Don’t adjust the plan too often.  
| - Monitor and correct variation.  
| Minimize Variation | - Implement planning through TAKT time management. (Takt time is the desired time that it takes to make one unit of production output.)  
| - Don’t adjust the plan too often; let it auto-adjust.  
| - Manage by exception.  
| Be Flexible | - Understand the causes in the forecast variation; check sensitivity to small root-cause variations.  
| - Work to minimize variation in output at different levels.  
| - Don’t cause variations to the plan through SC intervention.  
| - Minimize modifications to IT required by innovations applied to new products, new markets, etc.  
| - Reduce “changeover times” taken to apply new plans.  
| - Review plan more frequently but with different levels of change allowed in different time frames.  

---

Figure 3
• **Planning:** Supply chain design and planning for demand and inventory, manufacturing and transportation.

• **Scheduling:** Production scheduling and sequencing, with setup optimization.

• **Execution:** Material management, warehouse management, manufacturing and order and transportation execution.

• **Distribution:** Pull-based execution signals, with long-term forward visibility.

• **Coordination:** Supply chain event and performance management.

• **Collaboration:** Support for collaborative planning, forecasting and replenishment, vendor-managed inventory and supplier-managed inventory.

In addition, SAP supply chain planning software advances the following goals:

• **Lean production planning to deliver on time with a smooth flow:** Lean production planning helps smooth production and keeps manufacturing volumes constant. It enables Lean pull process results in improved on-time delivery with reduced inventory and cuts work-in-progress. Effective sales and operation planning enables planners to improve operations across globally distributed and local plants, enhance performance, control inventory levels and bolster customer satisfaction.

  Production leveling lets manufacturers consistently meet delivery targets while considering demand, capacity and inventory. Production leveling considers capacity constraints, every-part-every-interval (EPEI) standards and setup optimization, production flexibility and delivery reliability rise. **Kanban** loop sizing considers demand and supply volatility, forecast accuracy, pull interval, calendar and shift information. Portal-based collaboration tools increase supply chain visibility both internally and upstream with suppliers.

• **Lean execution to manage performance and mitigate risk:** Lean production execution helps execute production and material flow according to lean principles and establish a goal of continuous improvements (kaizen) with empowered employees.

  SAP solutions for Lean manufacturing support Lean production execution with a wide range of **kanban** techniques to enable pull-based methodologies as well as customer and supplier collaboration. They analyze the value stream and avoid non-value-added activities. SAP software increases visibility and evaluation of supply and demand elements and connects manufacturing processes with enterprise and supply chain processes. It provides visibility and evaluation of all supply and demand elements through dashboards, including a *heijunka* board that displays a leveled production plan and a **kanban** board that provides a supply and demand view.

  Also, SAP software provides greater visibility into demand signals, automates replenishment processes and lets team members work more efficiently on promotion management tasks.

• **Demand-driven and make-to-order manufacturing:** SAP SCM balances the push and pull requirements needed to successfully manage a dynamic supply chain in an always-changing business environment. The software supports demand-driven manufacturing with powerful functionality that allows supply chain managers to sense demand signals and respond in an efficient manner. SAP SCM also enables efficient assembly planning for shop-floor environments as well as support for configure-to-order and engineer-to-order processes.

• **Kanban techniques:** SAP SCM supports a variety of **kanban** techniques that are used in pull-based systems, including classic **kanban**, one-card **kanban**, event-driven or non-replenishable **kanban**, **kanban** replenishment with or without material requirements planning and external procurement with Internet **kanban**. SAP SCM thereby delivers a variety of methods for tracking inventory to keep stock levels low while avoiding shortage situations.

Customer and Supplier Collaboration Planning

SAP SNC supports customer-side collaboration by providing greater visibility into demand
signals, automating replenishment processes and enabling team members to work more efficiently on promotion management tasks.

For supplier collaboration, SAP SNC enables exception-based capabilities that allow suppliers to see the status of their materials at manufacturers’ plants, receive automatic alerts when inventory levels are low and respond quickly via the Web.

**SAP Benefits in Lean Supply Chain Planning**

SAP SCM enables the following:

- Enhanced profitability by reducing operational expenses and improving coordination with partners.
- Quick response to changes in supply and demand.
- Stronger customer loyalty resulting from higher satisfaction levels for order fulfillment.
- Ability to more accurately determine customer delivery dates.
- Better match of supply to demand through improved forecasting, planning and visibility.
- Leverage analytics to monitor and measure performance.
- Higher demand accuracy with dynamic synchronization of demand-driven planning, logistics and supply network execution.
- Execute on kanban loop but still provide long-term visibility for planning in one system.
- Automation of order creation process.
- Availability of statistical safety stock calculation methods.
- Macros and custom key figures allow supply network planning (SNP) to be tailored to organizational needs.
- SNP and production planning and detailed scheduling optimizers can be configured to approximate heijunka leveling.
- Reduced inventory levels through enhanced visibility into demand, leading to decreased inventory buffers.

**Greater Accuracy and Profitability Through Lean Supply Chain Planning**

Lean in supply chain planning with the optimization component of SAP SCM enhances the organization’s existing supply network by delivering full planning functionality - strategic, tactical and operational. It can support demand, forecast, calendar, event or order-driven supply chain process models. Now, the planner can accurately match supply-and-demand leads; reduce inventory levels; and optimize in-stock positions, inventory turns, profitability and productivity. Supply-chain planners can model existing supply networks, set goals, forecast, optimize and schedule time, materials and other sources.

Planners can also synchronize logistics, transportation and fulfillment operations with front-end demand gateways and back-end supply sources to facilitate demand-driven manufacturing and fulfillment processes. Demand-driven replenishment produces a lean, efficient supply network, reduces inventory carrying costs and lets the organization fulfill orders more quickly, thereby enhancing customer satisfaction.

**Demand Planning and Forecasting**

SAP APO uses modern forecasting algorithms to anticipate demand for products or product characteristics, helping planners to stage product introductions and trade promotions. Planners can also plan their response to anticipated external events that affect demand, or collaborate closely with customers to exchange demand data. It supports lifecycle planning and promotions planning to create efficient demand plans.

**Safety Stock Planning**

Planners can determine the optimal levels of safety stock to satisfy unexpected demand and set those levels across the entire supply network. This saves them the expense of maintaining excessive safety stock.

**Supply Network Planning**

With the integration of purchasing, manufacturing, distribution and transportation plans into an overall supply picture, planners can simulate various market conditions and implement comprehensive tactical planning and sourcing decisions based on a single, globally consistent model. The model can include heuristics-based material and capacity planning, cost-based optimization and multilevel supply-and-demand matching.

**Distribution Planning**

Planners can also determine which demands can be fulfilled by existing supply elements. This lets them plan the best short-term strategy to allocate available supply and replenish stocking locations intelligently.
Production Planning and Scheduling
With thorough production planning, SCM organizations can create feasible, optimized production schedules that take into account real-time material and capacity constraints. Optimized scheduling helps ensure a fast, flexible approach to engineering changes and evolving customer requirements.

Order Fulfillment
Advanced planning functions let planners manage orders based on availability of goods under transport and at distribution centers, production sites and storage locations. Tightly optimized fulfillment adds to the organization’s profitability and customer satisfaction. These planning functions support the decision process for:

- Product availability check.
- Product allocation check.
- Rules-based ATP (product substitution or location substitution).
- Back-order processing.

Vendor-Managed Inventory
Planners can take full advantage of Web-based collaboration functionality that improves mutual visibility into demand. They can work directly with partners to reduce inventory buffers, improve customer service and increase revenues.

Alert Monitor
SAP APO uses a powerful exception message protocol to support exception-based planning. Planners have a clear drill-down path from each alert to help them solve underlying challenges.

Implementing SAP to Advance Lean Supply Chain Planning
Planning is the function that enjoys extended visibility into, and influence over, the end-to-end supply chain. SAP ERP is the application that provides such end-to-end visibility. Implementing Lean in the supply chain planning function can therefore yield significant improvement. Lean will help to remove all seven muda in the planning process and make planning more effective and efficient. Intuitively, our experience reveals that companies in the forefront of Lean adoption are supporting the Lean planning process with SAP as the key application tool.

Early identified benefits can arguably be achievable without Lean techniques; however, the real change and sustainable improvement comes with the Lean principles that are embedded not just in the planning process but in the people and culture of the organization. With a robust approach to lean supply chain planning, organizations can arm planners with technical planning tools such as SAP SCM and skills to run an effective and efficient planning process combined with the skills to “do the right work,” “do the work right” and “manage the right way.” When planners have the capability, mindset and application software to continually analyze and identify where and how the process and outcomes can be improved, any early benefits will not merely avoid the risk of eroding but continue to track upward over the long term.

In conclusion, the following scenario, based on our work with clients, reveals how supply chain planning with SAP SCM can be implemented to improve efficiency and effectiveness across the supply chain.

- **Issue 1**: A consumer-facing business requiring high levels of safety stock at various parts of its supply chain; in turn, high working capital is required to maintain service levels.

- **Action**: Product stock keeping units (SKUs) are segmented from a “supply” perspective to get a more detailed and effective breakdown of categories to analyze and establish safety stock strategies.

  - Different safety stock calculation methods are evaluated and the most effective method is selected. Ultimately, through a greater evaluation of the trade-off of service levels and required safety stocks at a more granular level, the potential to maintain up to 99% service levels was identified with approximately five days’ worth of safety stock removed from the system.

  - Processes are also evaluated to identify any waste and improvement opportunities. A key example being the process to identify the availability of additional stock or manufacturing capacity where additional short-term sales opportunities presented...
themselves. Where every one of these requests would take several days to process, lean initiatives help to reduce this to within seconds for a significant amount of these types of enquiries, leaving planners to spend time only on the more complex of these – also significantly reducing the draw on their time and efforts.

- A supply planning management system was established to continually track safety stock improvement potential against service levels and the effectiveness of key parts of the planning process.
- A combination of advanced planning and Lean techniques training is delivered to planners to establish improved planning knowledge and a continuous-improvement culture.

• Benefits: The early results of implementing Lean supply planning have seen an approximately five-day reduction in safety stocks of pilot products while maintaining service levels of 95%. Other benefits included:

  - Standardized and repeatable processes, with accountability for each process step.
  - Effective governance of planning processes and performance.
  - Well-defined deviation management and reporting mechanisms.
  - Behavioral change in employees to strive for improvements.

• Issue 2: To improve demand planning processes with an aim of improving demand forecasts and routinely evaluate the root causes for forecast deviations.

• Action:
  - Product SKUs are segmented within prioritized customer groupings based on the demand characteristics of the customer and product combination as well as "value" considerations.
  - Different forecasting techniques are evaluated against each of the new categories. Where suitable, statistical forecasts are leveraged to far greater extent, freeing up planners’ time to focus on only those products where their time and effort would help improve demand planning and forecast accuracy.
  - Planners to review KPIs against different customer and product segments, identify where improvement priorities reside and initiate, manage and conclude root cause analysis and improvement plans.
  - A combination of advanced planning and Lean techniques training was delivered to supply planners to establish improved planning knowledge and to build a continuous-improvement culture.

• Benefits: Lean in demand planning achieves a 15% base forecast accuracy improvement.

About the Author
Amol Chavan is a Consultant within Cognizant’s SAP SCM practice. He has 13-plus years of experience in supply chain management, in SAP ECC and APO. Amol has extensive exposure and knowledge in SAP implementation projects related to logistics and planning. He is known for his problem-solving and consultancy skills, as well as his facility with the Lean process and its application in business processes. Amol’s experience spans industry sectors including consumer products, material handling, manufacturing, chemicals and pharmaceuticals. He can be reached at Amol-3.chavan-3@cognizant.com.
About Cognizant

Cognizant (NASDAQ: CTSH) is a leading provider of information technology, consulting, and business process outsourcing services, dedicated to helping the world's leading companies build stronger businesses. Headquartered in Teaneck, New Jersey (U.S.), Cognizant combines a passion for client satisfaction, technology innovation, deep industry and business process expertise, and a global, collaborative workforce that embodies the future of work. With over 50 delivery centers worldwide and approximately 162,700 employees as of March 31, 2013, Cognizant is a member of the NASDAQ-100, the S&P 500, the Forbes Global 2000, and the Fortune 500 and is ranked among the top performing and fastest growing companies in the world.

Visit us online at www.cognizant.com for more information.