

Browse the Book

This sample chapter describes how analytics can be used to enhance the performance of your supply chain network. It covers SAP Supply Chain Control Tower as the central control system for supply chain planning processes. The chapter explores key performance indicators (KPIs) in the supply chain and their usage with standard definitions and applications. It also discusses the SAP Supply Chain Control Tower dashboard, with a look at process management and alerts to illustrate the end-to-end visibility, control, and corrective action capabilities supported by SAP Supply Chain Control Tower.

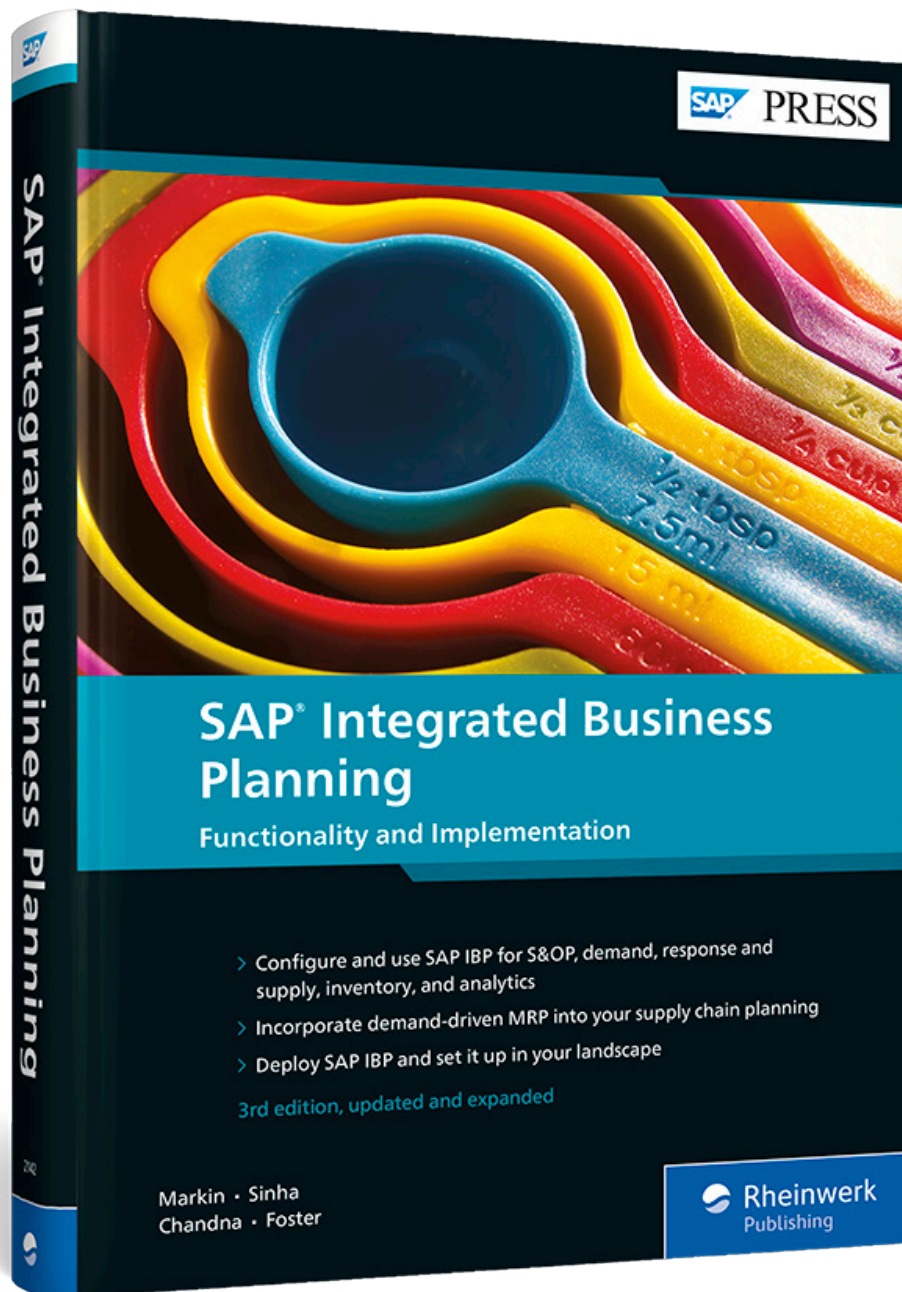
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SAP Integrated Business Planning: Functionality and Implementation

526 pages, 3rd, updated and revised edition 2021, \$79.95
ISBN 978-1-4932-2142-4

 www.sap-press.com/5338



Chapter 14

SAP Supply Chain Control Tower

SAP Supply Chain Control Tower provides end-to-end visibility, real-time monitoring, and real-time control over your supply chain networks. In addition, users can identify, evaluate, and respond to problems and opportunities that arise in the supply chain. Cutting-edge collaboration enabling digital supply networks is also facilitated through the functionalities available with SAP Supply Chain Control Tower. In this chapter, we'll discuss supply chain analytics in detail and describe how to use SAP Supply Chain Control Tower to enhance organizational performance.

Most of our focus in the preceding chapters has been on the powerful advanced planning capabilities found in SAP Integrated Business Planning (SAP IBP). Users who deal directly with these applications are generally professional demand, supply, and inventory planners who must make critical decisions that can have a major impact on your company's supply chain performance. These professionals are often faced with the following questions:

- How do we know if our decisions in fact have the desired effect?
- How do we improve upon these decisions in the next planning cycle?
- How can other people in the organization who aren't directly involved in these planning processes see these results?
- How can I collaborate with my partners to work together on a seamless plan?
- How can data from other parts of the company, or even from outside the company, be combined with planning data to provide an end-to-end view of the digital supply chain?

SAP Supply Chain Control Tower has been designed to answer these questions. But before we dive into the solution in detail, let's start by defining supply chain analytics and describing how it can be used to enhance the performance of your supply chain network. Then, we'll discuss in detail how to use SAP Supply Chain Control Tower for analytics and as a central control system for your supply chain planning processes. We'll explore key performance indicators (KPIs) in the supply chain and their usage with standard definitions and applications. We'll also discuss the SAP Supply Chain Control Tower dashboard, with a look at process management and alerts to illustrate the end-to-end visibility, control, and corrective action capabilities supported by SAP Supply Chain Control Tower.

14.1 Supply Chain Analytics and Dashboards

Analytics in business refers to the use of data to derive information for decision-making and then analyzing a decision's impact in order to achieve continuous improvement.

Figure 14.1 shows an example of an analytics cycle. The available data ❶ is converted into information ❷ that guides the appropriate action ❸. The results of an action are analyzed to make a decision or course correction ❹. This process is a virtuous cycle that keeps your organization on the path of continuous improvement.

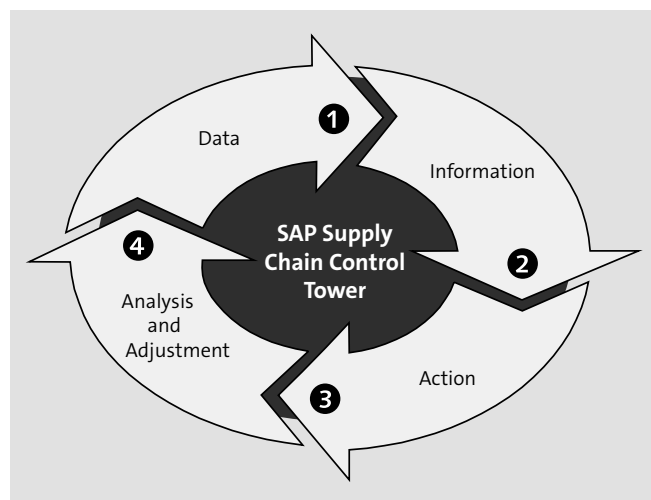


Figure 14.1 Analytics Cycle for Continuous Improvement

Supply chain analytics organizes information for a more efficient, profitable, and resilient supply chain network. Any organization's network is full of relevant data that can be converted into information for managing and controlling the supply chain. The direct applications of supply chain analytics are in demand management, supply planning, inventory optimization, and reacting to market dynamics.

Analytics, in the broadest sense, is used for multiple purposes such as performance reports using historical data, conducting predictive analysis for future events, and enhancing end-to-end visibility into business events (e.g., exceptions) along with tools to control these events. The supply chain is one of the richest areas from which to generate value through analytics.

SAP IBP contains robust analytical capabilities that are used in demand, supply, and inventory planning applications. Parameters governing the visibility, control, and performance of supply chain analytics are part of the SAP Supply Chain Control Tower solution in SAP IBP.

SAP Supply Chain Control Tower enables planners to identify and evaluate problems and opportunities in the supply chain network and provides a channel for action through collaboration and task management. Supply chain KPIs are readily available through

custom reports and dashboards. Along with end-to-end visibility and the monitoring of real-time data, custom alerts and analytics can help you make decisions to manage risk and leverage opportunities.

The built-in dashboards in SAP IBP provide a single place for end-to-end visibility and control of the supply chain. These dashboards can be built and customized by end users for their particular roles and processes. The use of dashboards is pervasive throughout SAP IBP. Applications consume and generate massive amounts of data, and dashboards translate this data into useful information. Such dashboards tend to be application- or case-specific, depending on the demand, inventory, and supply situation.

SAP Supply Chain Control Tower dashboards are much broader in scope, often combining data from multiple applications to provide a global view of supply chain conditions. In addition, SAP Supply Chain Control Tower provides different ways of representing the data, including geographical, network, and chart views. Figure 14.2 shows a good example of this type of dashboard and shows a process flow, demand planning analytics, inventory with global distribution, and a heat map. The dashboard also contains summary information of the match between supply and demand and the values found in the annual operating plan (AOP).

All of this information reflects the latest situation as of the last planning run or underlying transaction, providing a nearly real-time view into the overall health of a supply chain. In addition, these graphics are interactive, meaning that you can drill down to additional information, paving the way for root-cause analysis and problem resolution, which will be covered in more detail later in Section 14.4. Finally, dashboards can be configured to meet the needs of a particular role or user. A virtually infinite number of such dashboards can be created by end users without the need for special technical skills.

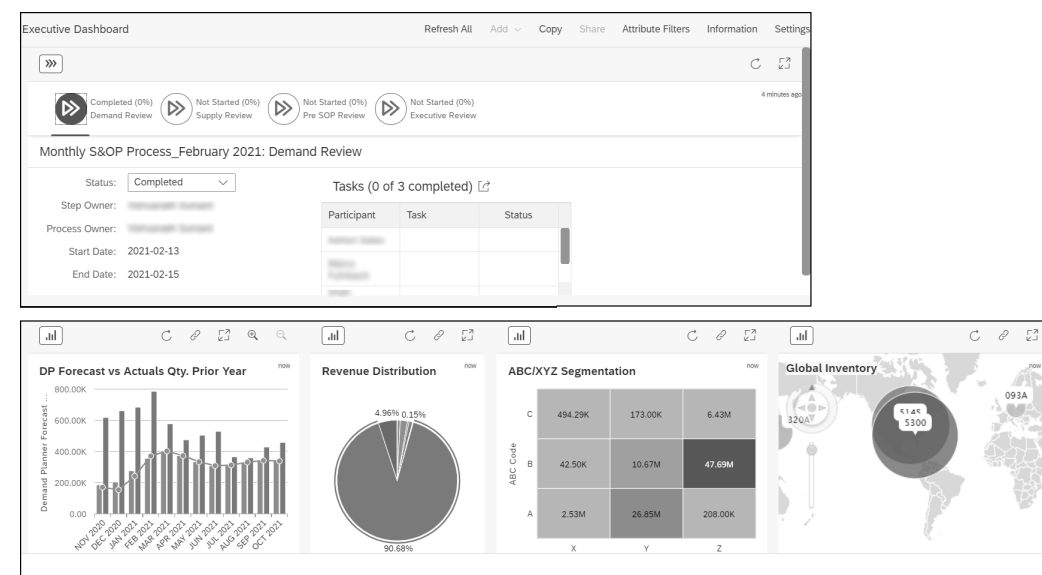


Figure 14.2 SAP Supply Chain Control Tower: Example Dashboard

14.2 SAP Supply Chain Control Tower Alerts

As mentioned in the previous section, some SAP Supply Chain Control Tower dashboards contain interactive views to guide the user from insight to action. This guidance can take the form of alerts that indicate a potential supply chain disruption. Similar to dashboards, the end user can define the business rules and logic that trigger alert conditions, as well as determine how an alert should be presented in the application. These alert conditions can be based on any key figure in the system and for any time horizon. A filtering capability is also available so that alerts can be displayed based on their priority. This combination of capabilities provides a high degree of supply chain visibility and control.

Figure 14.3 shows a good example of such an alert, which is easily accessed from the planner's dashboard. On the left side is the alert list, which provides a description and the underlying data that triggered each alert—in this case, a deviation between the consensus demand and the statistical forecast. One of its unique capabilities, SAP IBP can represent both operational and financial metrics for any key figure.

Selecting one of the alerts, you'll see more detailed information to help you better understand the situation. In the main view bar graph, you can see the potential excess inventory and write-off risk for a particular time period, along with the product and location in question. Further investigation would likely show the type of inventory (safety stock, cycle stock) that comprises the excess. This type of drilldown capability helps you make better decisions on how to resolve the issue. We'll discuss drilldown capabilities further in the following section.

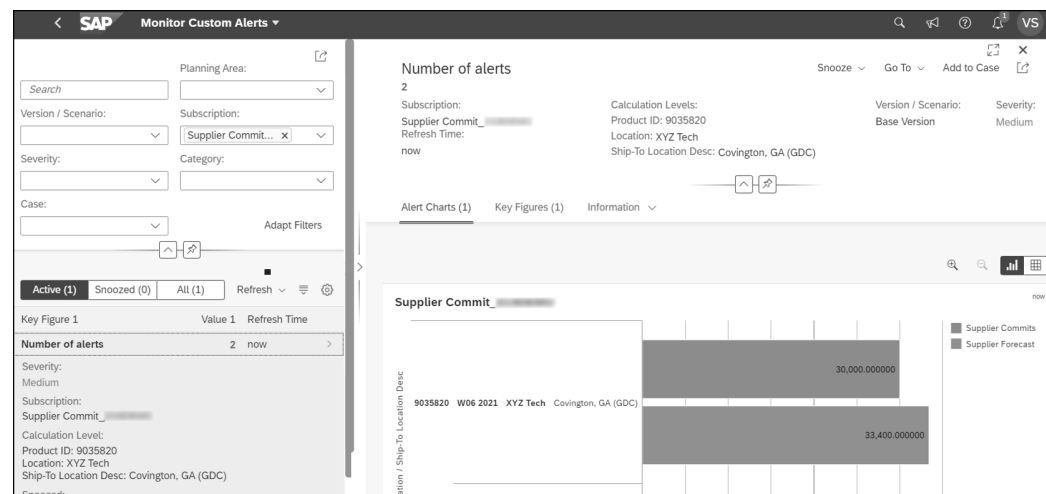


Figure 14.3 SAP Supply Chain Control Tower: Example Alerts

SAP Supply Chain Control Tower alerts can be built using predefined key figures, or you can define custom alerts using your own set of data and conditions, with the following capabilities:

- You can add rules and conditions under which alerts will be generated.
- You can specify the minimum number of consecutive periods that a condition must exist before an alert is generated.
- You can include metrics to be displayed to help users analyze the alert and take action.
- You can choose the version of the data for which you would like to trigger alerts.
- You can create a setting for alerts that occur across an established time horizon to be aggregated into a single chart display in the monitor.
- You can select various options for displaying the alert data (using different chart types).
- You can subscribe to custom alert definitions and add filters if needed to restrict or further customize the alerts that will be triggered.
- You can assign an Excel template so users can solve alerts in Excel.
- You can share definitions and subscriptions with other users or user groups.
- You can opt out of definitions and subscriptions shared by others if you're no longer involved in resolving them.
- You can navigate directly from the definition to the monitor.
- You can subscribe to custom alert definitions and add filters if needed to restrict or further customize the alerts that will be triggered.

The definition of custom alerts will be described in more detail in Chapter 15.

14.3 The Networked Supply Chain

SAP Supply Chain Control Tower is designed for use in conjunction with other SAP IBP planning applications as an overarching analytics solution. Figure 14.4 shows the SAP IBP solution landscape along with other solution areas. Connecting arrows illustrate how the individual solutions integrate with SAP Supply Chain Control Tower to deliver real-time visibility, analysis, and control without data transformation or latency.

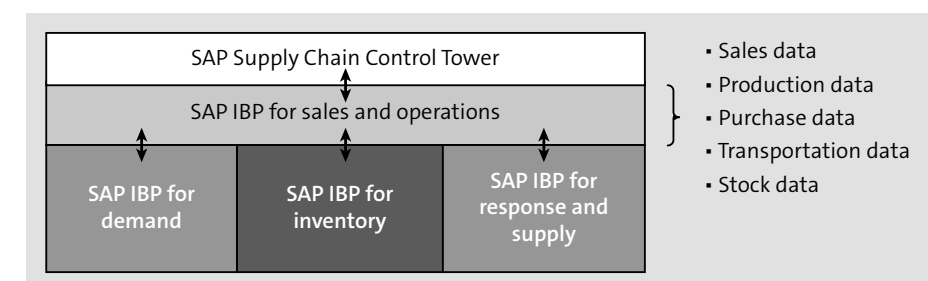


Figure 14.4 SAP Supply Chain Control Tower in the SAP IBP Landscape

In addition to the planning components of SAP IBP, SAP Supply Chain Control Tower can also be connected to your organization's operational systems to collect information regarding supply chain execution. These systems include order execution, purchasing, and transportation systems or any other system that would be considered relevant for supply chain visibility and control.

In Chapter 1, we discussed how the idea of the sharing economy in the industrial world is reflected in the increasing emphasis on collaboration across the network (with suppliers, contract manufacturers, logistic service providers, and other partners). We noted that networked companies tended to outperform their peers in revenue and profitability. SAP Supply Chain Control Tower can be a key enabler of collaboration by providing connectivity with SAP Business Network, allowing critical information to be exchanged between connected enterprises in a secure manner. Scenarios including collaborative forecasting and inventory visibility are enabled, which drive the SAP IBP applications with real-time data. In addition, complete visibility across the extended network will support real-time alerting, analysis, and issue resolution between business partners.

The networked supply chain with SAP IBP and SAP Ariba Supply Chain Collaboration for Buyers is further detailed in Section 14.6.

14.4 Root-Cause Analysis and Resolution

After you've fully investigated and understood the issues in the supply chain network, for example, a material shortage, a resource overload, or excess inventory, several tools are at your disposal to resolve these issues. One option is to use an SAP IBP application, such as inventory optimization, to evaluate one or more scenarios. In the example discussed in Section 14.2 regarding safety stock alerts, this evaluation may involve testing the impact of different safety stock parameters on inventory investments to see if better results can be achieved. These scenarios can be run iteratively and independently of the *live plan* so that the different results can be compared and evaluated. These scenarios and comparisons can also be shared with an expanded group of users via integrated collaboration capabilities using SAP Jam, and stakeholders can have the opportunity to comment and make recommendations on the best path forward, as shown in Figure 14.5.

After a final decision has been agreed upon, the responsible planner can set up an SAP Supply Chain Control Tower case that describes the situation and proposed resolution and then assigns actions, or tasks, to the appropriate individuals to execute the decision, as shown in Figure 14.6. These tasks might involve performing a final inventory optimization run and updating the product master data record with the desired inventory targets. After completion, the task is updated, and the case is considered closed. This simple example demonstrates how SAP Supply Chain Control Tower can seamlessly orchestrate the resolution of a potentially costly supply chain problem.

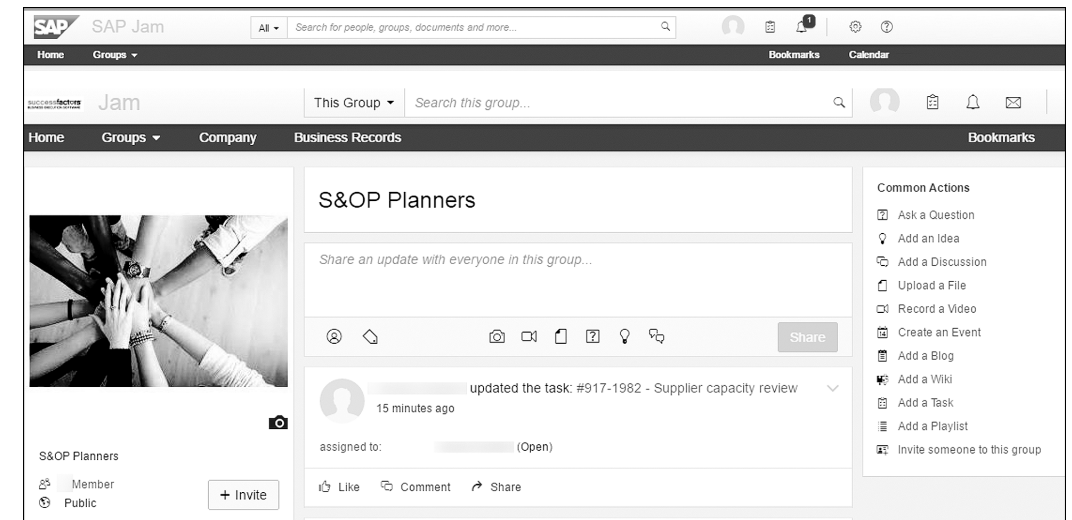


Figure 14.5 SAP Jam Collaboration

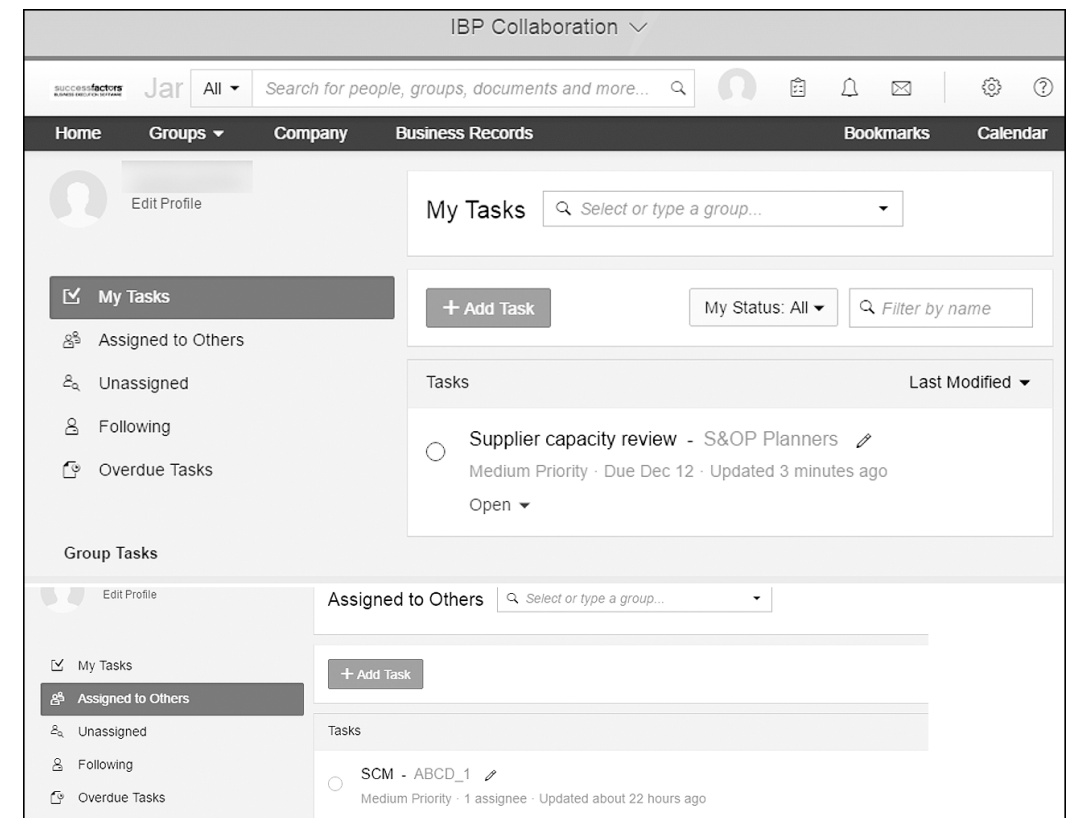


Figure 14.6 Case and Task Management

Of course, inventory issues are just one type of problem that SAP Supply Chain Control Tower can address. If we go back to our dashboard (shown earlier in Figure 14.2), recall that information regarding demand, supply, and production was available to provide insight into other potential issues. For example, the graphic view of forecast versus actuals indicates imbalances between forecasted value as compared to actual demand over time. You may want to drill down and investigate further to see which products are affected. You can then run scenarios that show the relationship between constrained demand and volume, revenue, and profitability for a given product.

Another example is shown in the geographic view, where the size and color of the bubbles indicate inventory across regions. Again, you can drill down to the product level to investigate any issues such as resource constraints or material shortages. Assuming a connection to the execution system is available, you can drill down as deeply into the network as required to identify the problem, even as far back as the material supplier. This type of end-to-end network visibility demonstrates the real power of SAP Supply Chain Control Tower.

14.5 Analytics and Key Performance Indicators

So far, we've discussed how SAP Supply Chain Control Tower can leverage data from across an extended supply network to help identify and resolve specific operational issues that occur on a daily basis. The next issue is how to leverage this same data from a longer-term perspective to avoid these issues in the future and to continuously improve performance.

To address this issue, SAP Supply Chain Control Tower provides a framework for defining, calculating, and analyzing KPIs. These KPIs can be historical in nature, such as the percentage of orders delivered on time in full (OTIF) for the past 3 months. The supporting data is collected in SAP IBP from the various planning and transactional systems. The underlying calculation is generated as a percentage, which is then displayed in a dashboard, perhaps in red to reflect a negative trend. You would have the ability to further investigate this KPI using the same drilldown capabilities as in the example discussed in Section 14.4 on root-cause analysis.

For example, you can see which products, orders, and locations contribute to this negative trend and identify root causes, such as material shortages, production issues, or capacity constraints. With this information, you can use the same powerful planning tools to simulate different approaches to resolve the issue. You can, for example, add capacity, increase production, or adjust inventory policies. The case and task management capabilities we mentioned earlier can then be used to execute the decision.

This example illustrates how historical data can be used to improve future supply chain performance using metrics such as OTIF. A similar approach can also be utilized to project future performance using current planning data and adjusting those plans based on the results. A good example of such a forward-looking KPI is projected days of coverage, which compares the current supply plans and inventory positions to projected demand to determine if sufficient supply is available to cover the market demand. The results of the calculation can be displayed as a number in a dashboard, with any trends highlighted, allowing you to investigate the issue and develop and execute a solution. The primary difference is that most of the required data resides in the planning model, so the calculation depends less on transactional systems, thus improving response time and flexibility.

Figure 14.7 shows the type of dashboard we've been describing. Note that this dashboard is a combination of historical and forward-looking KPIs and that this particular dashboard is inventory and supply oriented. Of course, this content is completely customizable by the end user and could contain KPIs that are more demand or even finance oriented, or any combination of categories. Another important point is that SAP Supply Chain Control Tower comes packaged with a large number of predefined KPIs that can be used immediately and includes all required key figures and calculations. This package also includes a number of standard metrics from the Supply Chain Operations Reference (SCOR) model, which is the de facto industry-standard model for supply chain management. More than 75 predefined metrics have been delivered, a number that grows with each subsequent release of SAP IBP. Table 14.1 shows the relevant KPIs from the areas of order fulfillment, inventory, cash-to-cash, and cost-to-serve areas.

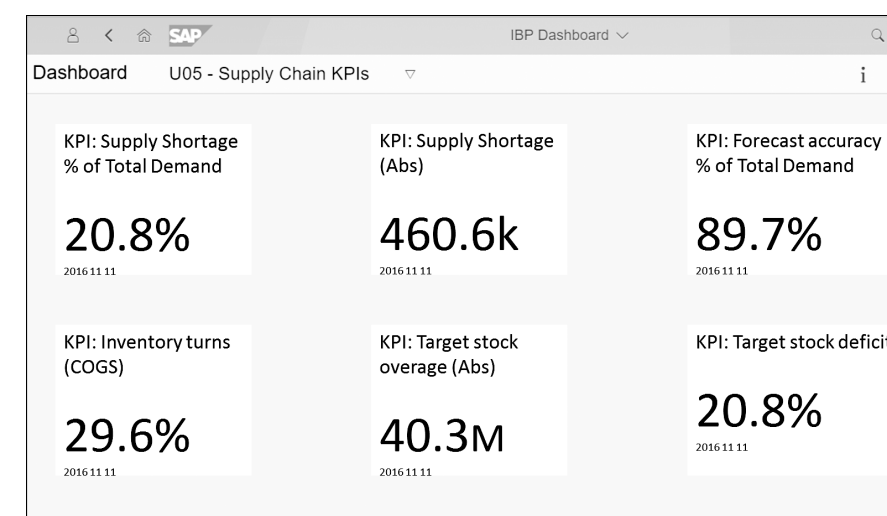


Figure 14.7 SAP Supply Chain Control Tower: KPIs Dashboard

SCOR Perfect Order Fulfillment (20 KPIs)	SCM Inventory (17 KPIs)	SCOR Cash-to-Cash (12 KPIs)	SCOR Cost-to-Serve (Level 2)
<ul style="list-style-type: none"> ■ Delivery item accuracy (L3) ■ Delivery item accuracy (L2) ■ Delivery item accuracy order (L3) ■ Delivery item accuracy order (L2) ■ Delivery date accuracy (L3) ■ Delivery date accuracy (L2) ■ Delivery date accuracy order (L3) ■ Delivery date accuracy order (L2) ■ Delivery location accuracy (L3) ■ Delivery location accuracy order (L3) ■ Delivery location accuracy (L2) ■ Delivery location accuracy order (L2) ■ Delivery quantity accuracy (L3) ■ Delivery quantity accuracy (L2) ■ Delivery quantity accuracy order (L3) ■ Delivery quantity accuracy order (L2) ■ Orders delivered in full items level ■ Orders delivered in full order level ■ Orders delivered on time item level ■ Orders delivered on time order level 	<ul style="list-style-type: none"> ■ Target stock deficit (% of location product) ■ Target stock deficit (absolute) ■ Target stock deficit (number of location product) ■ Target stock overage (% of location product) ■ Target stock overage (absolute) ■ Target stock overage (number of location product) ■ Safety stock deficit (% of location product) ■ Safety stock deficit (absolute) ■ Safety stock deficit (number of location product) ■ Safety stock overage (% of location product) ■ Safety stock overage (absolute) ■ Safety stock overage (number of location product) ■ Supply shortage (% of location product) ■ Supply shortage (absolute) ■ Supply shortage (number of location product) ■ Supply shortage (% of total demand) ■ Projected days of coverage 	<ul style="list-style-type: none"> ■ Inventory turnover ratio ■ Cost of goods sold (COGS) ■ Annualized COGS ■ Annual average inventory cost rate ■ Inventory value ■ Inventory days of supply based on annual COGS ■ RM (raw material) inventory quantity value ■ WIP (work in progress) inventory value ■ FG (finished good) inventory value ■ FG (finished good) inventory in plant ■ FG (finished good) inventory outside plant 	<ul style="list-style-type: none"> ■ Planning cost ■ Sourcing cost ■ Material landed cost ■ Production cost ■ Data management cost ■ Fulfillment cost ■ Returns cost

Table 14.1 SAP Supply Chain Control Tower: KPIs

In addition to the standard KPIs, SAP Supply Chain Control Tower enables you to create customized metrics, either using the delivered content as a starting point or allowing you to add new key figures and calculations to the model. As a result, you'll enjoy ultimate flexibility and control with regard to performance management and improvement.

Supply chain KPI selection for the continuous improvement of your organization depends on your organization's business processes, planning scope, and process maturity. In the following sections, we'll look at the most used KPIs relevant to supply chains and discuss their use in SAP Supply Chain Control Tower.

14.5.1 Key Performance Indicators for Order Fulfillment and Service Quality

In the areas of order fulfillment and service level, the following KPIs are the most relevant:

- **OTIF**
OTIF is the percentage of orders fulfilled on time with full quantity in a period as compared to the total orders in that period.
The OTIF measurement is strict in nature because this value is binary; the result of order fulfillment is either 0 or 1. Therefore, for an order quantity of 100 to be delivered on March 15, 2017, if the delivery was made for a smaller quantity (say 95) or if the delivery was late, then order fulfillment is considered as 0. So, in a week of orders, if one order was delivered with a partial quantity, and the other three orders are delivered on time with full quantity, then the OTIF for the four orders will be 75%.
- **Fill rate**
A fill rate is the percentage of the quantity delivered in a time period from the total quantity of orders placed.
Partial quantities are considered when calculating the fill rate. Thus, let's say one month, you had 5 orders for 100 units each (a total requirement of 500), but the total supply in the month is 480. In this case, the fill rate is $(480 \div 500) \times 100 = 96\%$.
- **Backorder**
Backorder represents open sales orders for which the delivery is still pending. In the order execution system, backorders appear as open sales order line items that have exceeded their due dates, if no delivery block or billing block exists in the system.

14.5.2 Key Performance Indicators for Demand Forecasting

In the area of demand forecasting, the following KPIs are the most relevant:

- **Forecast accuracy**
This KPI measures, as a percentage, the accuracy of forecasts by comparing with the forecast values with actual values. The ratio of absolute difference between the actuals and forecast and the actuals is computed as an error in the forecast in the following way:

$$(1 - \{|At - Ft| \div At\}) \times 100 \text{ where}$$

Ft = Forecast value for period t

At = Actual sales for period t

■ Forecast bias

This KPI provides information on whether a forecast is biased on one side (either positive or negative represented by overforecasting or underforecasting, respectively).

The ratio of aggregated difference between actuals and forecast for the last 6 months and the aggregated actuals can be computed as bias in the forecast in the following way:

$$\text{Forecast bias} = (\sum(At - Ft) \div \sum At) \times 100 \text{ where}$$

$t = 1$ to 6 (prior months)

A = Actual sale units

F = Forecasted units

Forecast bias KPIs can be represented as a chart in SAP Supply Chain Control Tower.

■ Forecast fidelity

Forecast fidelity checks the changes performed in the demand forecast in the short-term period. The lag functionality in SAP IBP can save the values of the forecast at different periods to compare these values with the final forecast values.

In the following formula, the forecast for time period t is represented by Ft , and n represents the time lag for the data:

$$\text{Forecast fidelity percentage (lag 1)} = ((Ft(n) - Ft(n-1)) \div Ft(n)) \times 100$$

$$\text{Forecast fidelity percentage (lag 2)} = ((Ft(n) - Ft(n-2)) \div Ft(n)) \times 100$$

$$\text{Forecast fidelity percentage (lag 3)} = ((Ft(n) - Ft(n-3)) \div Ft(n)) \times 100$$

14.5.3 Key Performance Indicators for Supply, Response, and Transportation

In the areas of supply, response, and transportation, the following KPIs are the most relevant:

■ Days of coverage

Days of coverage represents the number of days of projected supply based on total demand.

■ Percentage resource capacity utilization (for bottleneck resources)

The percentage resource capacity utilization represents the time consumed by planned and confirmed production orders from the total resource availability time.

■ Production achievement percentage

The production output percentage can be calculated for an individual resource, a group of resources for a plant, or for an entire organization. This percentage is the ratio of actual output quantity to production capacity quantity.

■ Supply shortage

A supply shortage represents the shortage of material availability in current and future periods as compared to the total demand of the product. Supply shortage is generally considered for periods of 1 month, 3 months, 6 months, and 12 months for tactical and operational decisions. Shortages in further long-term horizons can be used for strategic decisions.

■ Schedule disruption

This KPI measures the number of production/process orders that had start dates changed at the last minute (e.g., within 3 days before the planned start date) against the total number of production/process orders in a month.

■ Premium freight percentage

Premium freight percentage represents the number of deliveries made by an exceptional premium route (e.g., an air route) as compared to the total number of deliveries made.

■ Sourcing performance

Sourcing performance represents the percentage of OTIF sourcing. This percentage measures the number of purchase order line items delivered OTIF against the total number of purchase order line items.

14.5.4 Key Performance Indicators for Inventory

In the area of inventory, the following KPIs are the most relevant:

■ Inventory turn

This KPI represents how many times a company's inventory is sold and replaced in a year. Inventory turn can be calculated by dividing the total COGS in the past 12 months by the current inventory value. Some organizations use the total sales revenue of the past 12 months instead of COGS for the calculation.

■ Non-moving inventory

Inventory value of the products with inventory more than a certain period of time (e.g., 6 months old) and for products with inventory and no demand forecast for a certain period in the future (e.g., next 6 months).

■ Inventory at risk

Inventory at risk represents the inventory with an associated batch set to expire in the near future, for example, in the next 15 or 30 days.

■ Inventory value

Monetary value of the product-wide, location-wide, and organization-wide inventory. This value can be generated individually for inventories of raw materials, semi-finished materials, and finished goods.

Many of these KPIs are readily available in SAP Supply Chain Control Tower, as listed in Table 14.1. Others may require key figure configuration and calculation in SAP IBP using data from SAP IBP or connected systems.

14.6 Business Network Collaboration

As described in Section 14.3, integration between SAP IBP and SAP Ariba multiplies the value of a supply chain through a collaborative environment in which your organization can be seamlessly connected with its key suppliers. This integration can be realized through SAP Supply Chain Control Tower and SAP Ariba Supply Chain Collaboration for Buyers.

With business network collaboration, with critical suppliers, you can easily share (send and receive) planning data in the form of key figures, thus enabling end-to-end visibility into planning data within the entire supply planning network. The following planning data can be shared using business network collaboration:

- Component forecast, which can be sent to suppliers and against which you can receive forecast commitments from suppliers
- Inventory visibility, for example, seeing the stock on hand value for a component from a supplier's inventory
- Manufacturing visibility, for example, seeing manufacturing quantities for a component being made a supplier

Data can be shared from the SAP IBP web-based interface via the Application Jobs app and can be scheduled as a background process. Data can also be shared from the SAP IBP Excel planning view on an ad hoc basis. Sharing data is enabled via a data sharing plan. A planner has following options to share the data:

- Using application jobs: The **Data Sharing Plan Outbound** template is available in the Application Jobs app.
- Using the SAP IBP Excel planning view: A planner can share data from the SAP IBP Excel planning view from the **Advanced** group of SAP IBP ribbon in Excel. The user will select **Data Sharing** and then click on **Run**.

To illustrate business network collaboration, let's look at an example. Figure 14.8 shows an SAP IBP planning view with the weekly supplier forecast, as calculated by the supply planning algorithm. This forecast information has been shared through business network collaboration with our suppliers to get their commitments against the plan.

As shown in Figure 14.9, a supplier forecast in SAP IBP is represented as an order forecast in SAP Ariba. The supplier team reviews this forecast against their plan, performs any update in the plan, and populates the **Forecast commit** key figure in SAP Ariba, as shown in Figure 14.9. Figure 14.10 shows the updated numbers for the **Supplier Commits** with an option to save the information.



Figure 14.8 Supplier Forecast to Be Shared with Business Network Collaboration

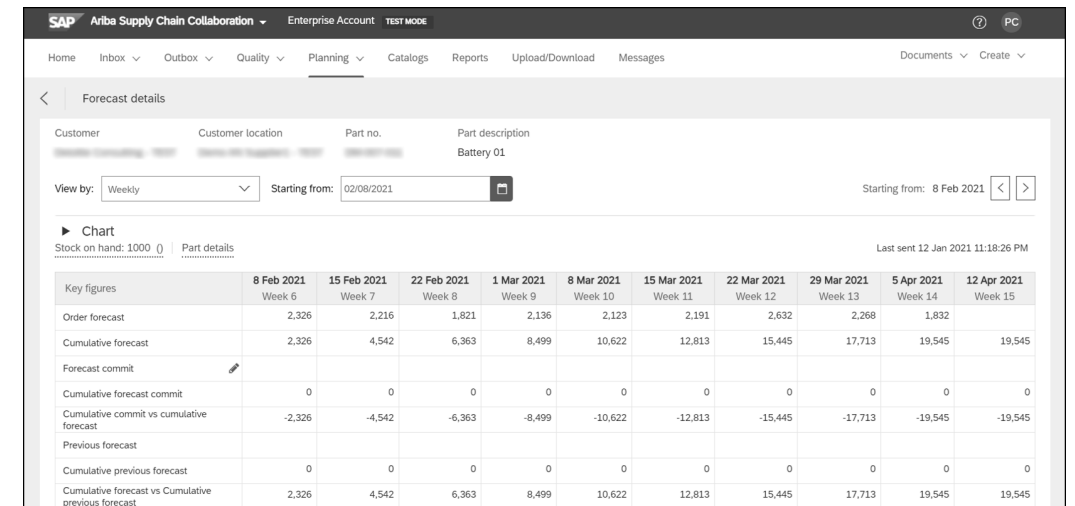


Figure 14.9 Forecast Commit Screen in SAP Ariba

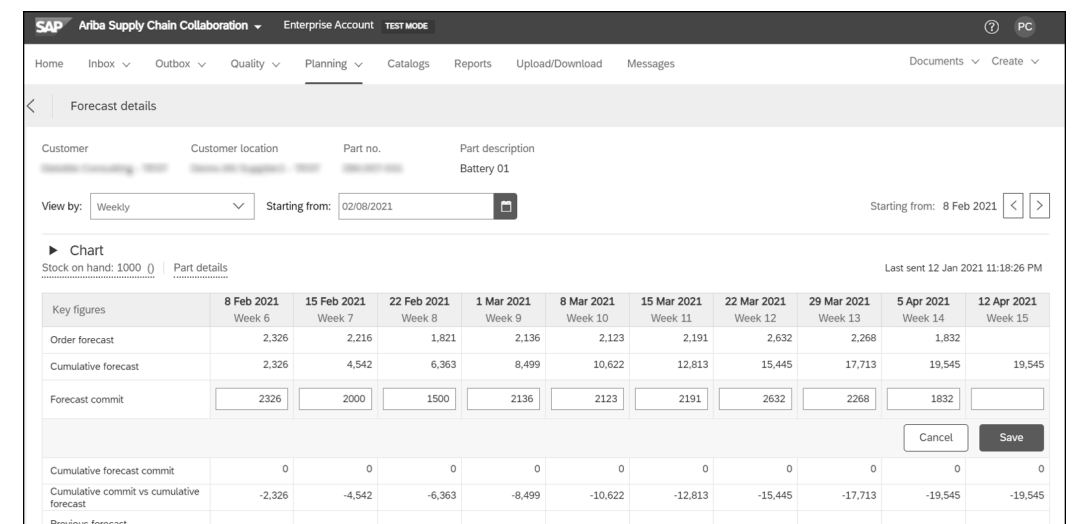


Figure 14.10 Forecast Commit Updates by Planner in an SAP Ariba System

Once the **Supplier Commits** information is saved in the SAP Ariba environment, this information will be sent back to the SAP IBP environment of your organization, as shown in Figure 14.11. The **Send Data** button, shown in Figure 14.11, transfers the selected key figure, **Forecast commit**, to the SAP IBP environment of the partner organization.

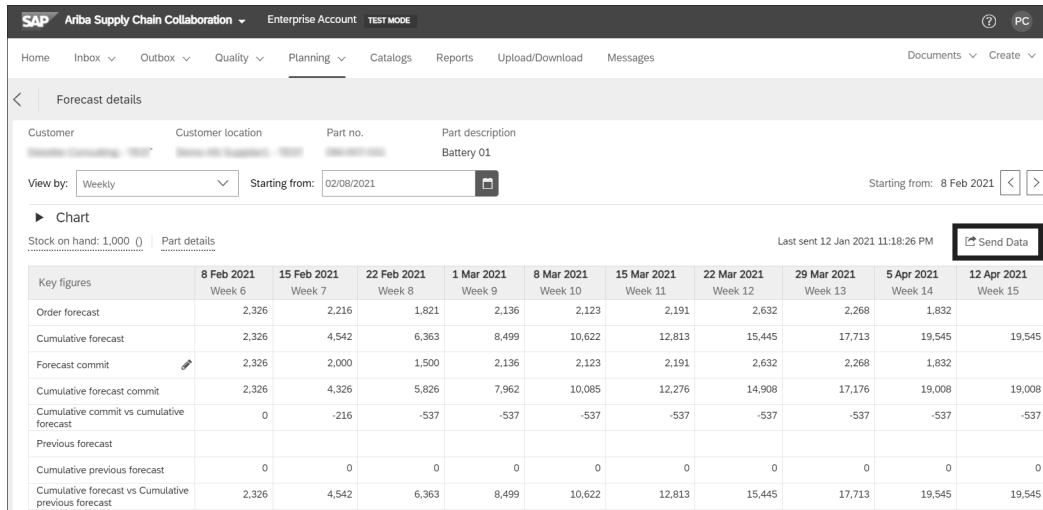


Figure 14.11 Forecast Commit Data Sent from SAP Ariba to SAP IBP

With this partner collaboration enabled through business network collaboration, the **Supplier Commits** information against the weekly **Supplier Forecast** is available in the SAP IBP system, as shown in Figure 14.12. An alert can be defined for automated generation based on the defined percentage deviation of **Supplier Commits** from the **Supplier Forecast** value. The **Supplier Commits** value can also be used for response-based supply planning calculations.



Figure 14.12 Forecast Commits and Stock on Hand Displayed in SAP IBP

This simple, yet effective business network collaboration can realize the goal of a connected and agile network through effective and transparent partner collaboration.

14.7 Intelligent Visibility

Intelligent visibility functionalities and relevant apps were introduced with release of SAP IBP 2002. Subsequent releases have further enhanced visibility into, review of, root-cause analysis of, and resolution of the potential disruptions in the supply network. Figure 14.13 shows the **Intelligent Visibility** group and its associated apps. We'll discuss the profile configuration and data selection for the Intelligent Visibility app in the next chapter, Chapter 15, Section 15.9.

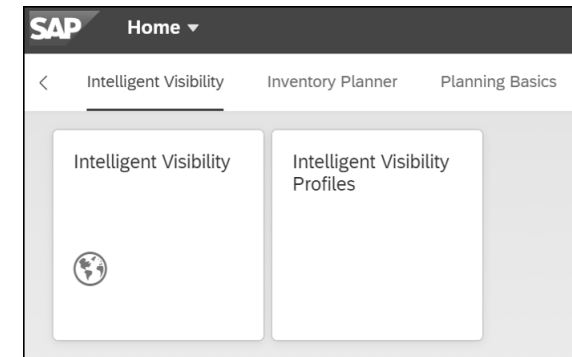


Figure 14.13 Intelligent Visibility Group

The intelligent visibility functionality provides next-generation visibility into your supply chain network and includes flexible analysis and resolution options. As shown in Figure 14.14, your supply chain network can be displayed directly through the Intelligent Visibility app.



Figure 14.14 Supply Chain Network Displayed through the Intelligent Visibility App

Alerts for a particular location are displayed on the map, as shown in Figure 14.15. Upstream and downstream product and location information, selected through the filter,

allows you to review dependent products and locations suffering from supply chain disruptions causing order fulfillment issues.

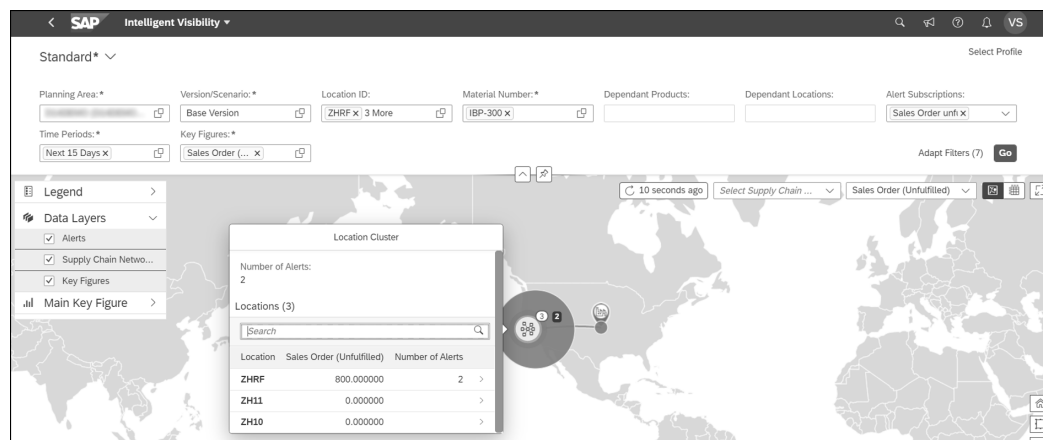


Figure 14.15 Alert Display through the Intelligent Visibility App

Monitoring these issues through the Intelligent Visibility app is based on the defined KPI and alerts, enabling the display of problem in real time with real-time data. Figure 14.16 shows an example of the detailed information and parameters relevant for generating an alert. In this example, an alert is generated when an issue preventing sales order fulfillment arises. A planner can use this information to resolve the unwanted scenario. Navigation to other areas of SAP IBP or SAP S/4HANA is possible to resolve potential issues. For resolving supply issues, collaboration with partners through SAP IBP and SAP Ariba Supply Chain Collaboration for Buyers integration is also an option.

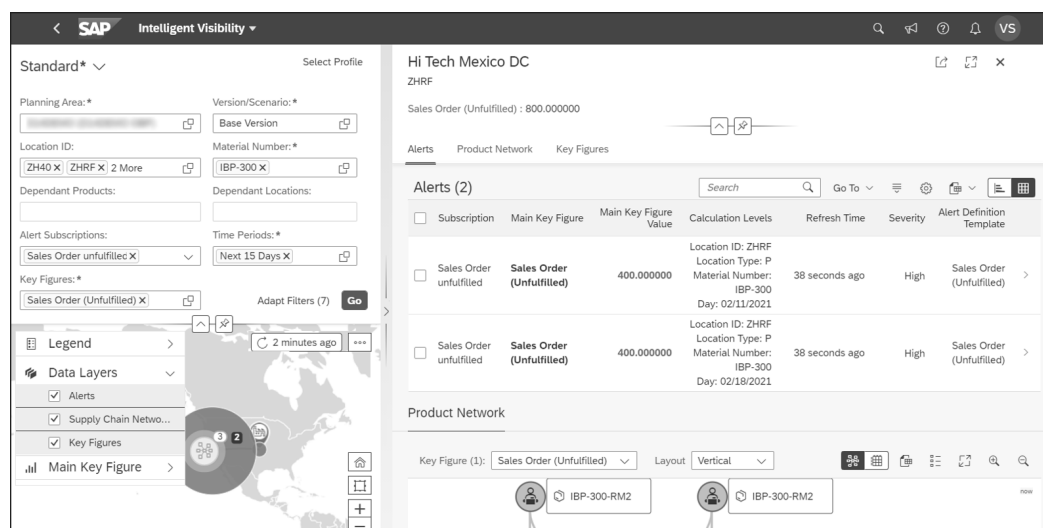


Figure 14.16 Review of an Alert through the Intelligent Visibility App

With the data-layer selection, key figure values on the map can also be displayed for a quick analysis of demand-supply imbalances and for taking a corrective action in the planning system (e.g., SAP IBP) or the execution system (e.g., SAP S/4HANA). Contextual navigation using upstream and downstream filtering options (for dependent products and locations) meets an important goal of SAP Supply Chain Control Tower—the ability to review and resolve demand-supply disruptions in real time!

Another functionality added through the Intelligent Visibility app is the ability to review the properties of products and locations through integration with SAP Enterprise Product Development. 3D visualization of a product, with components and parts, can help planners and supply chain analysts review the properties, components, etc. while resolving a supply chain issue related to a specific product. Location review can provide relevant information about the network structure, operations, and processes through the SAP IBP integration with SAP Enterprise Product Development.

14.8 What's Ahead for Analytics?

SAP Supply Chain Control Tower is an essential part of digital supply networks with continuously evolving requirements for end-to-end visibility, automation, and control. Recent innovations in intelligent visibility have enhanced value creation through innovation. Going forward, more innovations are planned, which can be categorized in the following way:

■ Global supply chain visualization

Direct display of KPIs impacting the performance of the supply networks is planned in the subsequent quarters. Along with the KPI display, the flexible search and display of aggregated and detailed data will help planners and supply chain analysts enhance customer service levels and efficiency while minimizing cost and waste. Some of these functionalities have already been added with the most recent release, and further enhancement is planned for future releases.

Contextual navigation to SAP Ariba Supply Chain Collaboration for Buyers to review the plan, along with the integration of supplier risk data through SAP Ariba, is planned. End-to-end collaboration with the suppliers and partners will be seamlessly achieved through further investment and innovation in the integration between SAP IBP and SAP Ariba.

■ Exception management

Alerts analysis, review, and resolution through network collaboration and plan adjustment will keep on evolving with the innovation enhancements planned for SAP Supply Chain Control Tower. Order-based alerting for gating factors and the usage of different attributes for further analysis into exceptional events are in the current development plan and should be released soon.

Alert resolution recommendations using a procedure playbook, along with the consumption of externally generated alerts, are planned for the future releases. These two functionalities will provide a holistic review of exceptional scenarios and will include a recommended playbook to work to help you avoid unwanted scenarios and to optimize the value of your supply chain network.

■ **Navigation and actions**

Contextual navigation to other SAP systems, (e.g., SAP S/4HANA, embedded production planning and detailed scheduling (PP-DS) in SAP S/4HANA, SAP Transportation Management (SAP TM), etc.) are planned for proving the integrated supply chain systems for plan analysis, what-if simulations, and exception resolution. Enablement of contextual navigation through SAP Transportation Management document flows will allow visibility and control through a logistics network.

In addition to the solution enhancement plan mentioned earlier, the adoption of machine learning-based analysis for identifying supply chain risks and opportunities will be added to SAP Supply Chain Control Tower. Impact analysis with the autonomous action, leveraging robotic process automation (RPA), will support the vision of intelligently automated supply chain network through SAP IBP solution.

14.9 Summary

The use of analytics in managing and controlling the supply chain network delivers tremendous benefits and can keep your organization on the path of continuous improvement. SAP Supply Chain Control Tower is a highly configurable and easy-to-use analytics tool for end-to-end visibility and control of supply chain activities. Its included analytics, dashboard, alert, task management, and performance improvement capabilities are highly relevant for modern supply chain networks. With these powerful capabilities in mind, now, you're ready to get into the configuration details to set up SAP Supply Chain Control Tower as an SAP IBP solution, which we'll cover in the next chapter.

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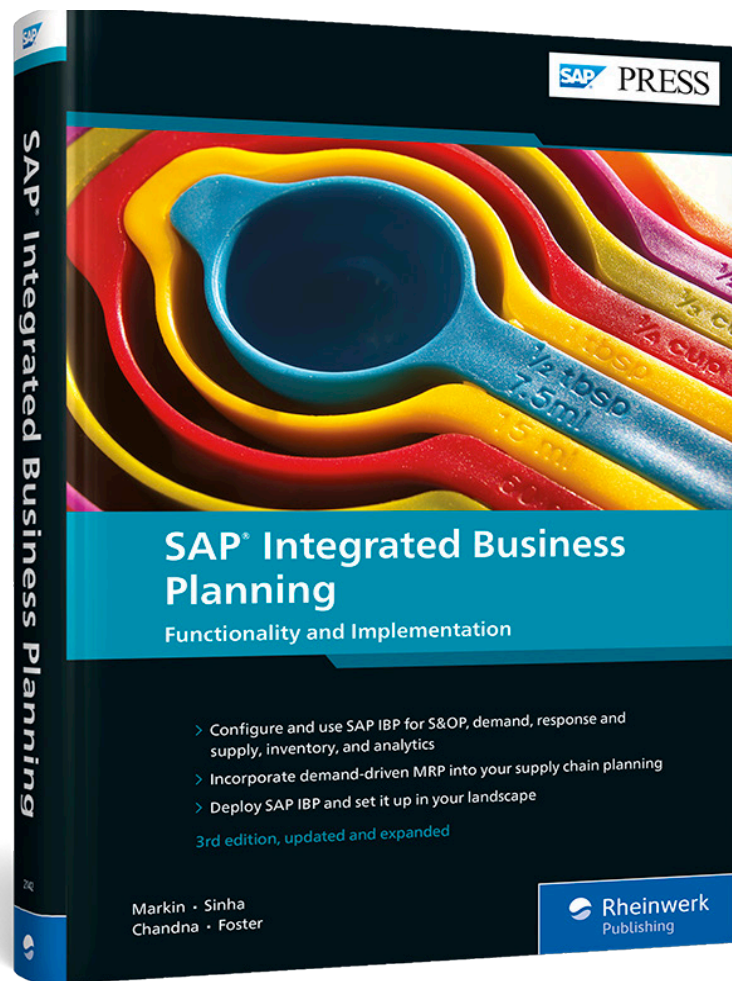
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Sandy Markin, Amit Sinha, Sanchit Chandna, Jay Foster

SAP Integrated Business Planning: Functionality and Implementation

526 pages, 3rd, updated and revised edition 2021, \$79.95
ISBN 978-1-4932-2142-4

 www.sap-press.com/5338



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