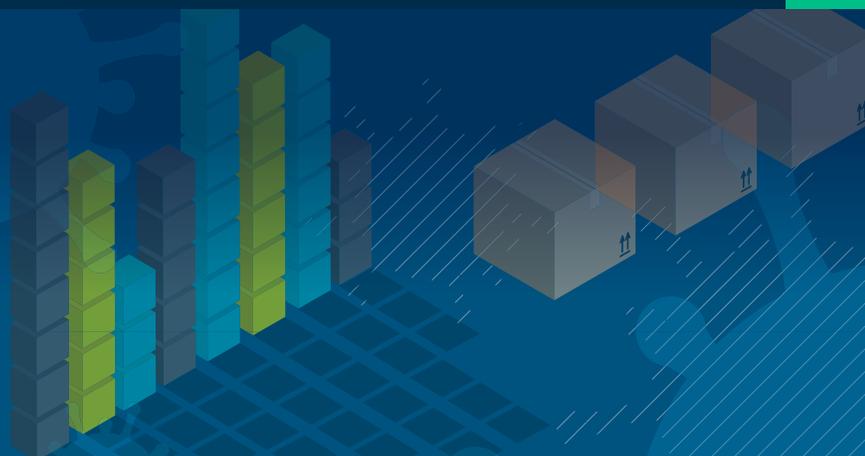# End-to-end supply chain scenario planning

Identify the best supply chain response to satisfy demand shifts
and minimize operational costs

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Consistent and
synchronized
business plans

Data-driven
scenario planning

Balanced revenue
recovery and
operational costs

The Issue

COVID-19 has significantly changed consumer shopping behaviors. From stocking pantries with household products and nonperishable foods to increasing our online shopping, demand has shifted across product categories and channels. This has generated disruptions to the end-to-end supply chain for retailers and consumer packaged goods (CPG) companies. Suppliers are facing limited capacities, production lines are at risk of shutdowns and delays, distribution centers have reduced labor, transport capacity is strained, and demand patterns continue to be volatile and uncertain.

To better deal with this instability, retail and CPG companies need a comprehensive approach for developing consistent and data-driven supply chain planning across the enterprise. Accurately estimating the impacts on revenue and operational costs across multiple demand scenarios enables organizations to identify the best responses across the supply chain and be better positioned for recovery and future growth.

Challenges

Meet shifts in demand while minimizing costs and lost sales. With significant changes in demand patterns and constant market disruptions, retailers and CPG companies are struggling to stabilize supply chains. SAS® helps provide the best supply-chain response to maximize profitability and satisfy as much demand as possible.

Manage disruptions in the supply chain. Organizations are facing reduced capacity and staffing and increased/decreased demand due to the pandemic. Using SAS, retailers and CPG companies can better account for these disruptions across the enterprise.

Plan for multiple recovery scenarios. The situation is changing daily, so it is imperative to understand the effects of different demand recovery patterns. SAS quickly identifies the best course of action with flexible what-if capabilities across multiple demand, capacity and cost scenarios.

Our Approach

SAS offers strategic end-to-end supply chain planning to help organizations holistically respond to disruptive events such as COVID-19. Using analytical optimization, SAS determines how you can change production and supply chain strategies to account for changes in demand. We can help by:

- **Providing the best response** across the end-to-end supply chain using an optimization model. Using robust optimization techniques, SAS balances supply chain costs and constraints with meeting sales goals.
- **Creating a set of consistent and synchronized plans** for purchasing, inventory, transportation, sales and manufacturing. Incorporating any expected or potential changes to the supply chain capacity, SAS captures major disruptions to end-to-end operations.
- **Capturing inventory, demand, capacity and cost data** across the entire supply chain from suppliers to manufacturing plants to distribution centers to stores.
- **Running multiple scenarios for demand forecasts** derived from different recovery expectations or potential markdown and promotion strategies.
- **Showing how demand affects the entire product portfolio,** including regular, perishable and seasonal goods.

The SAS® Difference

Combining leading analytics and deep industry knowledge, SAS enables organizations to develop a rapid response to disruptions of any type ans prepare for success. Our end-to-end supply chain scenario planning offers:

- **Powerful, intuitive optimization modeling.** SAS provides a streamlined mathematical optimization model tuned for performance and designed to tackle complex supply chain problems and help you resolve them quickly.
- **Data-driven, flexible approach.** SAS integrates data from internal and external sources and applies proven data-preparation techniques. Our data-driven approach provides a flexible framework for running different recovery scenarios rapidly.
- **Quick, accurate decisions.** SAS quickly identifies the best supply chain response to the pandemic. Our agile, iterative process from data to analytical insights is crucial for making prompt and accurate decisions in times of uncertainty.

End-to-End Supply Chain Planning
Holistically plan and optimize

Suppliers
Choose best supply locations and amounts from potentially limited choices.

Distribution Centers
Send inventory to best locations to meet demand while creating transport cost savings.

Plants*
Scale plant production up or down as labor availability and product demand changes.

Demand
Meet sales goals under a variety of potential demand recovery forecasts.

Manufacturing planning is optional for retailers

Learn more at the SAS COVID-19 Resource Hub

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