

# Maximize Customer Satisfaction, Revenue & Profitability With Intelligent Product Substitution



## Business Impact

Product availability and out-of-stocks on high-demand items are ongoing critical issues within the retail and CPG industries. They affect customer service and customer loyalty, as well as revenue and margin. Organizations can resolve these problems and improve the customer experience with a proactive, intelligent analytics solution that provides insight into how customers make purchase decisions – and recommends suitable product substitutes for out-of-stock items.

## Challenges

- **Maintaining 100% order fulfillment for online shoppers regardless of when they shop.** Without viable product substitution, out-of-stocks will continue to hamper order fulfillment.
- **Ensuring high customer service levels to maintain and grow customer loyalty and sales.** The inability to recommend viable product substitutes for out-of-stock products will continue to harm customer service and sales.
- **Protecting revenue and margin at a time of limited supply via order completion.** A solution to recommend product substitutes is crucial for healthy revenue and margins.
- **Determining the most appropriate substitute for the product that is out-of-stock to fill the order.** Without an analytically driven intelligent solution, companies are unable to satisfy customer demand with suitable product alternatives.

## The Issue

Demand shocks or disruptive events can significantly affect the retail supply chain, especially grocery. In the early stages of disruption, panic buying can ensue as shoppers stock up on goods and necessities, such as paper products and long-shelf life items, such as pasta. This results in significant ongoing out-of-stocks on many products until retailers can adjust their orders and supply chains accordingly. The exponential growth of consumers purchasing through online channels has only magnified the problem.

The challenge for retailers and CPG companies has been maintaining product supplies to satisfy demand and ensure customer service levels remain high. During this period of constrained inventory, retail and CPG companies must have the option to substitute “like” goods to satisfy demand. By analyzing product characteristics, a company can either offer the customer assistance in deciding or automatically substitute a product that’s in stock.

## Our Approach

Businesses are struggling to maintain high customer in-stock levels and complete order fulfillment due to high and volatile demand coupled with limited product availability. The result is that orders cannot be fulfilled, and the sales are lost.

To help retailers and CPG companies meet high and volatile demand during times of limited product availability, SAS uses advanced analytics and machine learning to understand customer decision-making processes and provide effective substitution recommendations.

We approach the problem by:

- Providing an analytically driven solution that maximizes customer satisfaction and benefits the retailer by increasing sales, margin or both.
- Establishing customer decision trees to analyze how a customer selects items to purchase and establish the solution set of substitutable products.
- Using multiple analytic decision-making techniques to determine the most appropriate product substitutes to fulfill the customer’s needs – and ultimately fill the order and close the sale.
- Providing time to value either on-premises or with software as a service.

## The SAS® Difference

Combining leading analytics and deep industry knowledge, SAS enables organizations to develop a rapid response to changing demand and prepare for future success. Our intelligent product substitution solution offers:

- **Powerful optimization modeling.** SAS provides a streamlined mathematical optimization model to help determine the best family of product substitutes to fulfill demand, maximize profit and maintain customer satisfaction.
- **Data driven, flexible approach.** SAS integrates data from internal and external sources and applies robust data preparation techniques.
- **Quick, accurate decisions.** SAS uses an agile and iterative approach to quickly identify the best family of product substitutions to fulfill demand at any point in time. This is especially important with the rise of online grocery shopping.
- **Patent pending, industry first.** SAS is taking a new approach to fill demand and complete the market basket so that the retailer can close the sale and keep customer satisfaction and fill rates high.

## Case Study

A large online grocer was losing sales due to out-of-stocks on high-demand items during the COVID-19 pandemic.

SAS provided the ability to:

- Determine suitable product substitutes, either at the time of ordering or fulfillment.
- Configure the scoring of the substitutes by product categorization.
- Report how the scoring inputs affected the selection process.

The online grocer saw many benefits, including:

- More orders made it to cart checkout and payment.
- Increased completed orders at time of fulfillment.
- Increased sales revenue.
- Increased margin.

## What If You Could...

- What if you could increase your sales, margin and customer satisfaction?
- What if you could understand how your customers choose a product and know what products they see as comparable or viable alternatives?
- What if you could fulfill all your online orders and minimize lost sales with limited inventory?
- What if you could get this solution up and running quickly to provide value from Day One?

**With SAS, you can.**

### SAS Facts

- SAS has over 7,000 forecasting customers worldwide.
- SAS serves more than 1,200 retail and consumer packaged goods companies.
- 66% of retail companies in the Fortune 500 rely on SAS.
- The world's top seven CPG companies use SAS Supply Chain Intelligence.
- SAS consistently ranks among the market leaders in analyst surveys of retail solution providers.

Learn more about SAS retail analytics at [sas.com/retail](https://sas.com/retail)

