



Demand Planning in a COVID-19 Disrupted World

Along with everyone in the world, CT Global Solutions is actively adjusting to living and maintaining continuity during the COVID-19 pandemic. All our staff across the globe are working from home, and we are helping them adjust to working remotely. We are committed to maintaining and exceeding all standards for sales support and delivery across the globe, adjusting our support to meet the needs of our clients in the new environment, while remaining empathetic to the personal and business challenges faced by our clients and partners.

The Current Challenges

As a SAS partner specializing in demand and supply planning, we have learned firsthand from our clients how significantly their demand and supply chains have changed. Examples are found daily in the news, including intermittent demand with stockouts of some products and excess inventory of others. For example, retailers have seen runs on paper goods and other consumer products and witnessed the attendant disruption to the supply chain. One of CT Global's customers is in the aerospace industry, and production has essentially closed.

While acknowledging these changes can threaten continuity, businesses that wish to serve their customers as best they can and maintain sustainable financial performance, need to make decisions that accurately reflect the realities of the COVID-19 environment. Our

experience knows how difficult it is for companies to digest the changed circumstances and adapt current forecasting models to reflect the new reality. Adaptation is needed to avoid lost revenues, and to eliminate knee-jerk supply chain responses that will negatively impact profitability and cash investment at a time of constrained liquidity.

Our global economy is the most interconnected and interdependent economy in history, and vulnerable to the disruption from COVID-19. Given the pandemic just started, global statistics are hard to come by. However, China statistics confirm the scale of disruption:

- The Purchasing Managers' Index is currently 35.7. Anything below 50 is considered very serious
- Export growth is normally 15-25% annually, but is currently showing a decline of 17%

Globally, the pandemic has hit all companies hard. Certain industries have suffered greatly including CPG, retail, travel, restaurants, sporting franchises, globally integrated manufacturing, and commodity industries.

How Demand Planning Solutions Help in a Post COVID-19 Economy



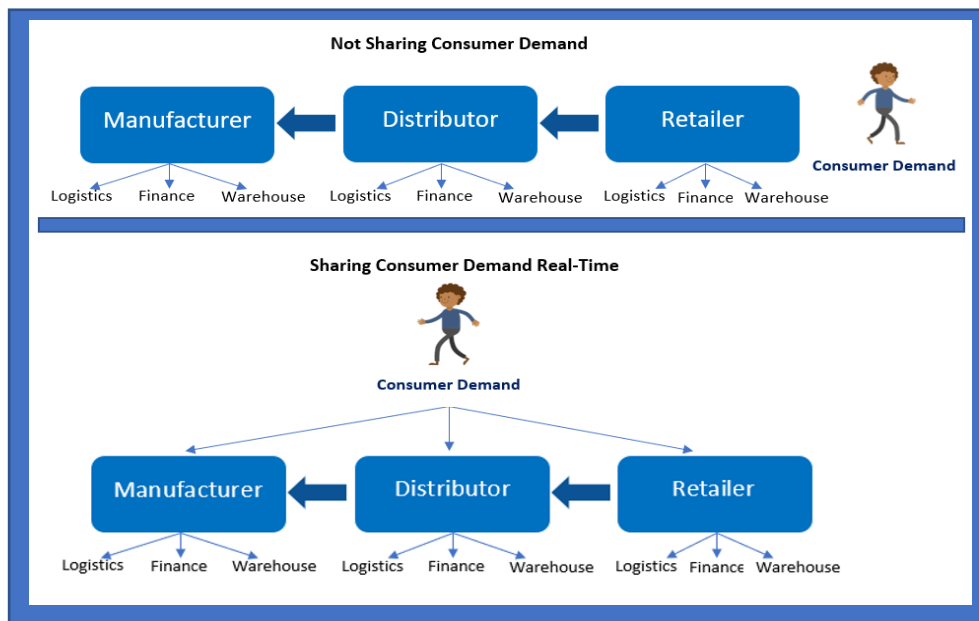
- **Use Downstream Consumption Data:** Most companies use 'shipment data' to forecast demand. This causes a lag when there is a level shift in consumption (downstream) and a bullwhip effect in upstream supply chains. Consumption data (like POS etc.) and consumption, or Point of Sale (POS) forecasts should be the primary driver of demand and supply and should be provided in near real time to upstream manufacturers, logistics providers (trucks and drivers), warehouse managers (labor and space), marketing (what to promote and when) and executive management (revenue and financial planning). Linking a series of multiple causal models (POS and Shipments) will measure the impact of marketing mix strategies and ensure on time delivery and higher fill rates on the supply chain.



- **Update the Demand Plan.** Quickly identifying level shifts in demand or predicting products with high fill rate errors are critical to understanding inside lead time. Providing Demand and Inventory Planners visibility to demand shifts allows upstream suppliers and production time to order and produce materials to improve fill rates. Since rate of change is more rapid, having the capability of real time inventory visibility and alerts is critical at the granular level of SKU/location planning.



- **Build Predictive Power with External Data.** External data can be used to enhance predictive models that better reflect your current environment. This includes social media information from Twitter feeds, Facebook and other social media platforms. These are a rich source of customer postings on what products customers are looking for, what is trending and their store and online purchases. This can provide a large enough sample to include sentiment analysis and text mining in the company's models to increase predictive accuracy. Other external factors include infection rates and macro-economic trends by region. The idea is to test and include any factors that increase the predictive power of the model.



- **Reoptimize the Supply Chain.** Reoptimizing supply chain networks under COVID-19 is the need to reflect changed logistics, vendors, suppliers, routes, costs and fill rates (to mention a few). Deciding which products should be direct shipped, cross docked, rationalized, buffered, centralized, decentralized, etc. – is an enormous task. It is an even bigger task dealing with disruptions to the supply chain from local embargoes, the failure of vendors to stay in business, lengthy shutdowns, and extended stock out periods. Models that include real time 'what if' scenario planning and model optimization helps re-plan your supply chain more effectively and more often based on real time data.

- **Forecast the Demand for New Products.** Global disruptions may require product rationalization (focusing on most important products) and the launch of new ones. Introducing new products increases the challenges of forecasting demand because of the lack of sales data. The solution is to analogous data from similar products to complete the forecast. Machine learning is used to identify the most analogous products and build the most accurate forecast possible. Machine learning also updates the new product forecast each month as demand data becomes available and the pattern of demand can be more accurately computed.





- **Create a Scalable Remote Environment.** The sheer volume of forecasts may overwhelm the ability to create the demand plan while working remotely. There may be a single demand plan, but many customers have thousands or millions of forecasts (SKU by location including product hierarchies, etc.) that are run daily or weekly. The solution is to use Machine Learning and Artificial Intelligence to automatically create and select the champion model for each forecast in every hierarchy every time. This automation allows as many as 90% of forecasts created not requiring human intervention, hence improving productivity. The remaining products may require review and adjustment. This reduction in touch points is an enabler in a remote work environment. It allows data scientists to focus their efforts on the exceptional forecasts where their experience and knowledge is invaluable, and not diminish their impact by spending much of their time on disparate spreadsheets and manual data extraction and load allowing more frequent reviews, important in volatile demand environments.



- **Plan and Optimize the Remote Workforce.** COVID-19 turns workforce planning upside down. Companies are seeing temporary and, in some cases, permanent shifts in the mix and volume of activities and the time required to complete them. From a planning standpoint, it is important to know how much time and effort is required, and to optimize the staffing needed to complete the work. This is not only a logistics issue, it impacts staff morale, productivity, customer satisfaction and more.





- **Collaborate.** Collaboration across the demand and supply chain is critical to adapting quickly. Demand plans are often reviewed by multiple stakeholders across the demand and supply chains prior to any adjustment and consensus. This can be very time consuming and disorganized as participants in the process create and share their own spreadsheets. The solution is to use a consensus workbench where everyone can access the current forecast, suggest changes, and collaborate in the consensus and approval process, ideal for remote workers.



- **Set Profitable Plans.** In the COVID-19 era, forecast accuracy is not enough. Companies must prove that the forecasts and decisions made will meet the company's financial targets. The solution is to allow analysts, stakeholders and decision makers to calculate what the revenues, profits and return on investment will be with a specific forecast or set of forecasts. If this calculation shows the forecast misses important financial targets, then scenario analysis and the testing of adjustments to the plan to improve the expected financial outcome is recommended. This capability is a lifeline in a world where liquidity is under pressure, and companies need analytic driven financially positive responses to level shifts in demand, and supply chain disruption.

The Power of the Partner

 **CT Global Solutions** is a strategic SAS partner that helps turn your data into profits. A gold alliance partner for nearly 20 years, CT Global has demonstrated domain expertise in profit analytics, decision analytics, and demand and supply planning optimization. CT Global puts SAS to work and amplifies its value to MAKE EVERY DECISION COUNT.

 is the leader in analytics. Through innovative software and services, SAS empowers and inspires customers around the world to transform data into intelligence. SAS gives you THE POWER TO KNOW®. 92 of the top 100 companies on the 2018 Fortune Global 1000® use SAS customers, [see their stories here.](#)



To talk to a CT Global demand and supply planning specialist, please contact us at info@ctglobalsolutions.com

