Demand Disruption Checklist

The COVID-19 pandemic demonstrated how quickly and dramatically business operations can be disrupted in a complex and interconnected way. From suppliers to transportation and including huge spikes and deep declines in demand, there have been varying degrees of disruption in virtually all industries.

When a highly disruptive event like this occurs, historical data can be insufficient - even irrelevant - for modeling future demand to make accurate forecasting, resource allocation, and capacity planning decisions. The consequences of this temporal break are far-reaching. Time series forecasting methods, a mainstay of the demand forecaster's toolkit, may no longer be viably predictive, as they rely on the assumption that the past is indicative of the future. Today's circumstances glaringly highlight that the future is unlike the past, which means organizations need to rethink their approach to predicting demand.

While it is impossible to have predicted all of the COVID-19 crisis impacts, maintaining and adapting operations to fast-changing events is complicated but possible. This checklist offers a path to restore operations and meet customer demand in the near-term. It also lays a foundation for an evolved demand analysis capability to inform integrated forecasting, supply chain, and strategic planning decisions across the enterprise.

Near-term

1 KNOW YOUR CONSUMER

- Collect POS or granular end consumer buying data from the commercial team or customer.
- Segment demand data by country, state, region, and 3-digit zips to unveil timing and magnitude of disruption event impact.
- Monitor changes weekly and even daily as needed to identify short-term vs long-term behavior changes as customer behavior can shift very quickly during a crisis situation.

2 SEGMENT AND PRIORITIZE BY PRODUCT

- Segment products by sales volume and disruption impact both positive and negative. Leverage AI-powered pattern recognition for more accurate segmentation based on consumption patterns.
- Prioritize time by focusing on high-value products with highest volatility and use machine learning algorithms to automate forecasting for remaining products.

3 REFRESH FORECASTS AND PLANS FREQUENTLY

- Refresh the forecast as new data becomes available. It helps to quickly sense changes and adjust the plans accordingly.
- Review and analyze changes in forecast over time.
- Apply business judgment to adjust forecast when necessary. Document and journal any change and assumption for retrospective analysis in the future.

4 COLLABORATE ACROSS FUNCTIONAL TEAMS

- Set up a war room to collaborate internally across demand, supply chain, commercial, marketing, and other departments to quickly adjust plans based on the most recent forecast. Create a direct communication line between demand and supply chain teams.
- Collaborate externally with customers and suppliers to be informed about their risks and challenges, and the impacts to plans and operations.
- Drive consensus and take actions quickly while considering the mid- and long-term implication of decisions.

Mid-term

5 INCORPORATE INTERNAL AND EXTERNAL CAUSAL DATA TO IMPROVE FORECAST

- Augment historical demand with internal data such as trade inventory, promotions, product attributes, and external data related to the disruption.
- Leverage machine learning and deep learning algorithms that apply advanced forecasting techniques, substitution analysis, stock-out indicators, and hierarchical learning to get a deeper understanding of demand shifts by measuring change points.

6 EVALUATE MULTIPLE SCENARIOS

- Proactively run what-if scenarios to inform contingency plans. Amid a crisis, scenarios are a crucial supplement to point forecasts that enable navigation through the potential impact of unavoidable short and mid-term changes.
- Use analogous examples from regions that are ahead of an event's impact curve and publically available status data related to the disruption to build realistic scenarios.
- Use new information to identify weak links and high-risk areas, and build scenarios to increase supply chain resilience.

7 UTILIZE INVENTORY MORE EFFICIENTLY

- Use granular forecasts to balance inventory in the network by considering inventory across all warehouses and the latest view of customer demand.
- Frequently correct the forecast and inventory imbalances between the inbound and outbound sides of the supply chain.

Long-term

8 BEWARE OF EXTENDED IMPACTS

- Expect that as markets and supply chains recover from this disruption, there can be long-term impacts to consumer demand such as brand loyalty, channel preference, and product substitutions.
- Understand that forecasting systems that use univariate algorithms such as exponential smoothing and ARIMA will not be able to accurately capture trend and seasonality due to the noise.

9 BE PREPARED FOR FUTURE DISRUPTION

- Recognize that ongoing supply chain and demand disruptions are inevitable, and commit to advancing and evolving your demand forecasting process.
- Equip the business with robust demand prediction technology that incorporates internal and external data along with advanced algorithms to identify your true drivers of demand and enable what-if scenario analysis to manage through change.
- Build out various scenarios, plan, and document with a playbook for each. You'll be well equipped to more rapidly react when the next disruption hits.

ADAPT and EVOLVE

COVID-19 forever changed how companies navigate to understand, manage, and predict demand so they can deliver on their commitments. Utilizing the best combination of data, technology, people, and processes will define those that most successfully adapt and evolve.

Coupa delivers enterprise demand modeling that includes advanced AI self-learning capabilities to uncover patterns, quantify external factors, and rapidly model what-if scenarios. Our customers have gained science-backed insights to analyze, predict, and plan for customer demand across short- to long-term horizons, helping make more informed supply chain, operations, product, and CAPEX decisions.

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