



SOLVING

CPG & RETAILER

DEMAND FORECASTING DILEMMAS

THE PROBLEM

The retailer-supplier relationship simply isn't arranged in a way that's conducive to confident demand forecasting.

Purchase pattern unpredictability prompted by the pandemic, combined with a rise in many suppliers moving towards a DTC model, make the urgent case for a relationship re-visit.

If retailers and suppliers had established more collaborative and aligned partnerships by co-owning data and objectives, the great 2020 toilet paper, bottled water, and other necessities stock-outs could have been prevented.

Moving forward, CI&T affirms that the best way to ensure improved demand forecasting is for retailers and suppliers to share consumer, sales, and basket data, and for both parties to cease complacency with the process.



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DIFFERENCES IN PERSPECTIVE

BACKGROUND

Over the last month, we conducted interviews and surveys with 115 executives at various big-box retailers and CPG suppliers to determine where each party's demand forecasting pain points and opportunities exist.

None of the respondents interviewed expressed total satisfaction with the demand forecasting process. Suppliers' most frequently-cited challenge relating to forecasting demand was visibility/access to data. Meanwhile, retailers' highest-ranking challenge was scaling the data platform.

Demand forecasting is a team effort. Holistic execution is not possible if the involved parties are not working from the same data set. Currently, many suppliers purchase data from third-party vendors such as SPINS/IRI and Nielsen, which poses a challenge for retailers since they can buy complete data sets that include suppliers' and retailers' competitor sales.



Both suppliers and retailers overwhelmingly reported that consumer-level data is the most likely type of data (as opposed to basket data or sales data) leveraged for demand forecasting. Though we often hear the importance of consumer data in better predicting demand, we believe there are significant opportunities to find greater value in basket-level data. Mapping correlations between cart items and purchase patterns over time can offer more consistently predictive value than a consumers' age or gender.

We also surveyed how respondents break down the overall task of demand forecasting. The options were by channel, geography, product category, and individual product. Suppliers' most common response were by geography, while retailers

cited channel most often. We feel strongly that this disparity in lenses will pave the way for misaligned goals. It's incredibly challenging to unite on objectives when the perspective on the approach is varied. We recommend individual products as a higher priority breakdown approach for improved inventory management and tracking accuracy.

Another major discrepancy uncovered by our survey data lie in the timeline observed by each party when looking back on logged sales. Most suppliers reported looking at sales data from the same month year over year as their predictive approach, while most retailers referenced the previous month's sales to predict the following month.

While comparing the same month year over year allows suppliers to account for seasonality, multiple assumptions are inherent in prioritizing year over year data. First, the assumption that March weather, for example, will be the same over time has been proven incorrect. Second, 2020 taught us that one year's sales could appear as the exact inverse from past years' when observing sales data. A lot can change from year to year, and the space of 12 months is too much time to assume enough consistency exists for forecasting demand, so perhaps retailers' shorter-term methodology is more sensible. Though a shorter timeline for comparing past demand can enhance accuracy, one potential issue with this approach came to light in our qualitative phase. Our survey research further validated this issue: skepticism may arise when data is too current.

The appeal of real-time demand data and the ability to immediately leverage it to make decisions seem obvious. But, one supplier told us that when the data available is considered too recent, its reliability is suspect. This concern highlighted a critical 'catch-22' in the timing of data collection for demand forecasting. Upon testing the significance of this issue, the majority of both retailers and suppliers somewhat agreed

with the statement, "When presented with forecasts using real-time or near real-time data, there is concern about the reliability of the forecast because it is too early to tell."

The demand forecasting equation is highly complicated, made even more complex by additional players not always at the forefront of the story. In speaking with an executive at a bottled water company, the distributor's role took center stage. "Well, we don't even work directly with retailers because we go through distributors- we consider distributors our main customer." Including the distributor in the picture means an even greater distance between retailers and suppliers, and therefore, even fewer opportunities to access each other's forecasting data. Since distributors often have many diverse, competing suppliers, it is in suppliers' best interest to limit the scope of the data they make accessible to those suppliers. And, knowing how competitive distributors' suppliers likely are, it is in retailers' best interest to limit the amount of data they make accessible to their distributors. So, in many cases, if there's a distributor involved, it can mean additional convolution and muddying of the waters for suppliers to produce the right amount of inventory.



EYES ARE ON THE WRONG PRIZE –

THE DATA POINTS THAT SHOULD MATTER

Consumer-level data were reportedly the most desirable data points for both suppliers and retailers. Though all respondents were collecting this type of data in some way, most acknowledged that they would like to see more information on their consumers. Sales data were reported as the second-highest priority data type. However, concerning sales data, both suppliers and retailers reported a higher likelihood of access to sales dollars data versus sales units for demand forecasting. Because sales dollars don't necessarily differentiate between pack sizes, sales units could be a more informative data point.

By focusing so heavily on sales and consumer data, retailers and suppliers are missing out on centering pivotal purchase information that would benefit both forecasting and marketing agendas. Predictive technology can glean valuable insights from undervalued and often overlooked purchase data.

Specifically, sharing basket-level data between retailers and suppliers should be a priority.

A shopper's average purchase value and usual purchase frequency would be highly relevant in predicting continued purchase behaviors at a basket level. Consumers are relatively routine when it comes to grocery shopping, so knowing how much they typically spend and how often will be highly reliable data for forecasting future demand. Additionally, collecting data on the accompanying items within the basket will illuminate opportunities for both upselling and cross-selling among other brands. Another critical data point, often overlooked, is pack size preference. Determining which size your shopper typically buys can have a massive impact on your ability to improve demand forecasting and drive R&D strategy.



IMPLICATIONS

It's no secret that suppliers are gaining power in today's retail world. With a heightened focus on marketplaces and an increased consumer desire for DTC, the options for suppliers to bypass retailers are expanding. In addition to the DTC route, the third-party data market is becoming more competitive and comprehensive. Buying third-party data from non-retail entities allows for visibility into suppliers' competitors' consumer, sales, and basket information. So, as a retailer, it is essential to ask yourself if keeping your shopper, sales, and basket data protected is a productive concern.

Reluctance to share data between parties may arise from a combination of variables. Either data host might face confidentiality issues with sharing personal consumer information. Preparing the data in a secure way that accommodates customer preferences can be extremely laborious, and finally, making the data available may feel like relinquishing a competitive edge.

However, CI&T built a solution to quell these concerns while aligning demand forecasting goals and methodology for retailers and suppliers, thereby improving inventory management. Leveraging this tool means everybody wins.

CI&T'S FRAMEWORK FOR MODERNIZATION

Ensuring that relevant data is accessible and shared allows retailers and suppliers to align goals and optimize decision-making.

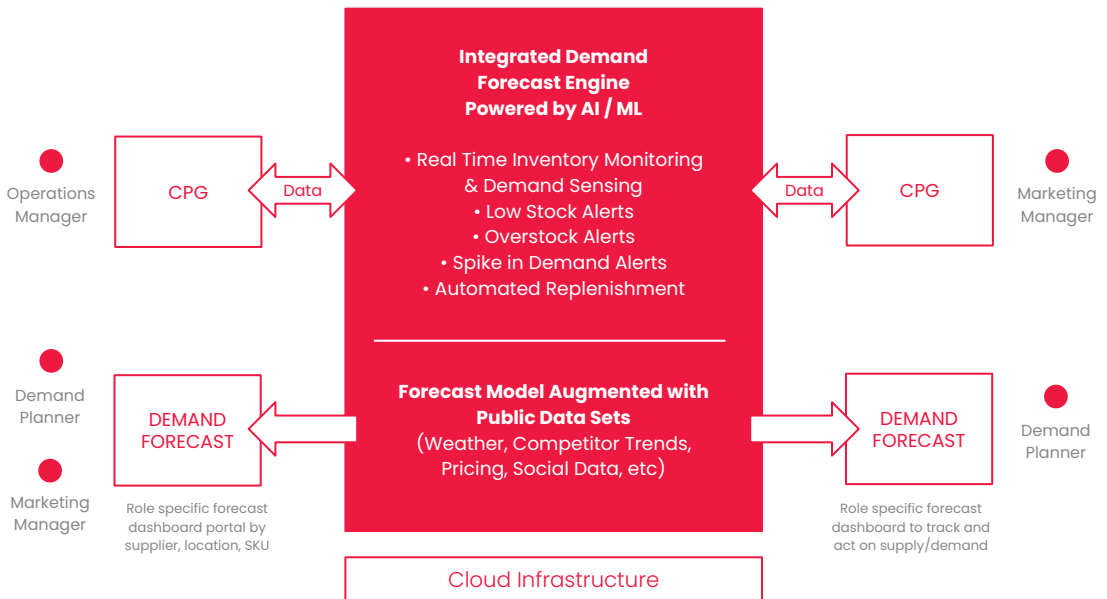
Our proposed way of achieving this requires an "uber forecast" platform wherein all parties have an established level of access to viewing a set of data. While the Retailer and suppliers would allow all data to be uploaded to this platform, the retailer and suppliers would agree upon a clearly outlined, tailored level of data visibility (this can differ by supplier).

For example, specific datasets may be off-limits to certain suppliers for confidentiality reasons, but ultimately, all partners will reach a consensus on what is shared. This sharing would be much more intentional, objective-oriented, and flexible because retailers may determine that a different level of data visibility is more appropriate over time.

Sharing data enables far more accuracy when analyzing inventory levels for suppliers and retailers, resulting in a closer match between supply and demand. In this synergistic world of demand forecasting, consumers aren't disappointed by stock-outs, there is a decrease in waste generation, and fewer items go to markdown.

[See the next page for our solution >](#)

INTEGRATED DEMAND FORECASTING AS A SERVICE



In a nutshell, we ingest forecast data sources from both CPG's and retailers, enrich this with public data sets, then produce role-specific 'CPG Forecasts' and role-specific 'Retailer Forecasts.' Both parties access the data as a portal dashboard or via API's into their current systems.

The solution also envisions real-time data pipelines of inventory data to generate alerts and replenishment concerning the forecast / predicted demand.

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