



PREDICTIVE DEMAND ANALYTICS

The Quick Replenishment Fix That Boosts Sales & Cuts Waste



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Food retailers' never-ending battle to reduce out-of-stocks and minimize food waste has become more complicated since the start of the pandemic amid supply chain disruptions, massive fluctuations in consumer demand and other challenges.

These conditions have set the stage for retailers to focus more on the opportunities to improve sales and minimize waste through inventory optimization and more accurate demand forecasting.

A survey earlier this year by Symphony RetailAI and Incisiv found that 95% of FMCG retailers cited inventory optimization as their top priority for 2021 as they seek to address supply chain issues.

Food retailers are focused on this area for some very good reasons. Having the right products in stock significantly influences not only sales to each individual customer but also customers' future behavior. An Oracle survey found that consumers often turned to online retailers when products they sought were out of stock at their grocery store, and 45% of consumers said they discovered new brands online and would continue to shop for those brands moving forward.

One often overlooked area of opportunity in inventory optimization is incorporating the effect of never-ending weather variability on sales in a systematic way through predictive demand analytics. Food retailers likely are already aware of the weather's effect — they have some sense that customers may stock up on meats for grilling when the forecast calls for a sunny weekend, for example, and that staples such as bread, milk, eggs and canned goods fly off the shelves when a hurricane approaches.



Most food retailers, however, don't incorporate all the nuanced effects that weather has on consumer demand day to day, especially when their operations are spread out across multiple markets. Weather-driven demand analytics are highly-tuned, featured engineered metrics that grocers are using to address this challenge.

Knowing which specific products are likely to see sales increases and which are likely to sit on the shelves under various weather conditions, store by store, results in smarter assortment and inventory planning. Retailers capture more sales by reducing out-of-stocks, and at the same time trim the costs associated with waste from overstocked perishables.

Following are the key considerations for retailers seeking to enhance their demand forecasting with weather-informed predictive analytics.



UNDERSTANDING WEATHER-DRIVEN DEMAND ANALYTICS

The full effect of weather on product demand can be ascertained only through in-depth weather data analysis that isolates the effect of the weather absent other factors, said Adam Moyer, senior vice president of customer success at Planalytics.

“You’ll get double or triple the return if you put weather analytics into a machine learning algorithm for demand forecasting,” he said. “It’s really about maximizing the forecast accuracy and maximizing the efficacy of the machine learning algorithm that you’re trying to create.”

Planalytics examines years of sales data from retailers to calculate the precise influence weather has on consumer demand for thousands of individual products, factoring out the effects of promotions and other influences. This data is then combined with near-term weather forecasts to calculate the level of demand retailers can anticipate for each item, in terms of unit sales and/or percentage increases or decreases.

Another advantage of using weather-driven demand analytics is the scale that can be achieved. For food retailers that conduct centralized demand forecasting across multiple markets, inputting raw weather data collected from each store location would be cumbersome and impractical.

“Weather-driven demand analytics are built to scale across the organization,” Moyer said.

Retailers using Planalytics can generate \$3 million in incremental EBITA per \$1 billion in sales volume, resulting from both increased product availability and reduced perishable shrink.

PREVENTING OUT-OF-STOCKS

Out-of-stocks have long concerned retail channels and affect margins beyond the potential loss of the immediate sale. Retailers also stand to lose money from decreased customer loyalty, and they might also end up paying more to expedite replenishment, according to research and consulting firm A.T. Kearney.

Weather-driven demand metrics enable food retailers to better predict increases in consumer demand and reduce the out-of-stocks that can result. Retailers are familiar with some of the effects weather has on the demand for certain products, but they are often unaware of many of the subtle increases weather fluctuations can have on demand.

Planalytics customers typically see anywhere from 50 to 200 basis points sales improvement by proactively adjusting store-level inventories to meet anticipated spikes in demand, Moyer said.

Planalytics conducts rigorous A/B testing, comparing in-stock positioning before and after implementation among a control group of SKUs and a group that is receiving the benefit of Planalytics' adjustments. As time goes on, retailers using Planalytics receive quarterly performance updates that show the dollar value of sales losses that were prevented through improved product availability.

One retail user of Planalytics reduced out-of-stocks 7%, which, in turn, reduced potential lost sales by about \$15 million.



REDUCING WASTE

While retailers almost always seek to incorporate weather analytics to achieve better in-stock positioning, they can attain comparable improvements in waste reduction as well by scaling back their inventory of perishable items based on weather-driven demand forecasts.

“One of the biggest learnings that we’ve had to date is that, especially in the fresh side of the business, no one thinks about taking their inventory down,” said Doug Pearson, senior vice president, sales, strategic accounts and alliances at Planalytics. “That’s pretty much universal among everyone that we talk to.”

According to ReFED, a nonprofit organization that seeks to help food companies reduce waste, retailers generate 10.5 million tons of surplus food annually, much of it from perishables. Nearly a third of the food wasted at retail is produce (32.6%), followed by dairy and eggs at 29.3%. Food waste could be nearly cut in half through better demand planning, the organization found.

Weather-driven demand adjustments reduce waste by helping retailers more accurately predict consumer demand for products across the store, especially meat and produce.

Planalytics can reduce retailers’ shrink by reducing perishables inventory based on weather-driven demand forecasting, Moyer said.

“It’s a huge benefit for retailers to take inventory out when they don’t need it,” he said.



10%-25%

FRUIT



10%-30%

VEGETABLES



20%-35%

MEAT

Typical waste savings using Planalytics

In many instances, reducing inventory is simply a matter of delaying the delivery of some SKUs for a few days, and perhaps reallocating inventory among stores to account for predicted increases in demand at some locations and decreases at others.

“Maybe your old system would tell you to order a case of strawberries for Tuesday, and instead you adjust it for Thursday because the demand’s not going to be there early in the week,” Moyer explained. “Then you’re saving two days of shelf life.”

One grocery retailer was seeing up to 10% waste when weather created a downturn in demand. By incorporating weather-driven demand forecasting using Planalytics on an item/day/store level, the retailer reduced its shrink costs by \$16 million through an 18% reduction in waste.

BOOSTING SUSTAINABILITY

Reducing perishables shrink by minimizing overordering of inventory not only saves money but also contributes to a more sustainable overall retail operation.

“A lot of grocers are now talking about food waste as a part of their carbon footprint,” Moyer said. “We can work right alongside them by just improving the inventory they already have and putting it where it’s needed, and just as important, not putting it where it’s not needed.”

Research has shown that nearly 40% of food waste occurs in the consumer retail supply chain, in both grocery stores and restaurants. The effect on climate from such waste includes the avoidable emissions from its transportation, refrigeration and packaging, according to a white paper from Planalytics. In addition, the food waste that ends up in landfills produces methane, a significant contributor to climate change.

By proactively managing demand fluctuations, retailers can reduce waste and make a significant contribution to the health of the environment, which has become an increasingly important concern for consumers.



CONCLUSIONS

At a time of increasing supply chain disruption and rising inflation, food retailers need to take full advantage of all the tools available to proactively optimize their inventories and forecast consumer demand. This includes solutions that leverage weather-driven demand analytics to adjust product availability based on historical trends for individual stores.

Weather-driven demand analytics add an important layer to retailers' demand-forecasting systems that goes beyond the simple use of meteorological forecasts. It is especially valuable for multiunit operators seeking to optimize inventories across a range of locations using centralized demand forecasting.

More accurate demand forecasting, enhanced by weather-driven demand analytics, can help food retailers reduce out-of-stocks and minimize waste, which, in turn, drive increased sales and profitability, as well as sustainability improvements and increased customer satisfaction.

Planalytics provides cloud-based weather-driven demand analytics that leverage machine learning and artificial intelligence to proactively adjust product demand forecasts day by day and store by store, as well as unit by unit, across fresh, frozen and ambient departments.

It is quick and easy to install, and it offers frictionless integration with retailers' existing operating systems. Payback is also fast - retailers typically recoup the cost of the service within 60 to 90 days of implementation and see a 10-to-1 annual return on investment.

At a time when retailers are incurring increased costs for needed investments such as e-commerce platforms, same-day delivery and curbside pickup, the cost savings and increased revenue that can be generated by using Planalytics can provide an offset for those expenses, Pearson said.

"The basis-point improvements we can help generate on the operating profit line are significant, and we can do that on an annual basis," he said. "It's like found money — it's as simple as that."

For more information about how Planalytics can improve the sales and profitability of your food retail operations by reducing out-of-stocks and minimizing waste, visit Planalytics.com.

Typical benefits for grocers

Waste reduced by 10% to 35% in fresh categories.

Net income increased 2% to 6% by optimizing inventories and reducing lost sales.

Sales increased by 25 to 100 basis points by reducing out-of-stocks.



Planalytics, Inc. is a global leader in predictive demand analytics that enable retailers to factor in the consumer context driving buying decisions and take action at scale. Planalytics' integration-ready metrics make it possible for companies to leverage existing software-as-a-service and machine learning technologies to systematically factor in key influencers of purchasing in order to anticipate demand, increase customer satisfaction, and improve financial performance. The weather is the most consistent and impactful external environmental driver of demand in the consumer economy. Planalytics predictive demand analytics calculate the consumer's relationship with the weather, creating metrics that companies use to enhance reporting and analysis, planning, allocation, replenishment, and digital marketing.

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