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Demystifying demand forecasting in grocery: strategies to address the unique challenges

Grocers are facing unprecedented top and bottom-line erosion due to stock issues

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Frequent Out of stock
Groceries typically have 5% to 10% of their items out of stock which resulted in revenue loss of $1.14 trillion globally in 2020

Wastage due to shorter shelf life
About 30 percent of food in American grocery stores is thrown away!

Over stock
Annual additional cost of holding excess inventory is about 30% of the margin

Rising revenue loss, wastage, inventory cost

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Changing consumer behavior has led to unpredictable and volatile demand

Convenience and price-sensitive
The percentage of U.S. adults who prefer pickup or delivery has increased from 5% in 2017 to 23% in 2021

More choices
One-third of U.S. consumers say they are actively looking for new products to try

Impact of events Demand for some categories such as meat and produce varies as much as by 50%

Changing Consumer Demand

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Traditional demand forecasting is ineffective to respond to unpredictable and volatile demand

Traditional forecasts are not tailored for channel, category-store nuances

Static one-time forecasts don't adapt to dynamic market forces

Overdependence on manual interventions due to inherent data limitations

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Traditional forecasts are not tailored for channel, category-store nuances

"one size fits all" approach isn't working anymore

Traditional forecasting methods use pre-defined rules that do not capture the diversity or complexity of products

Every category, store and channel behaves differently and needs an individualistic approach

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Traditional forecasts are static one-time forecasts that don't adapt to dynamic market forces

What happens on the aisles dictates the demand rather than the long-term trends and cycles

Traditional forecasting methods do not capture important demand forces that drive demand

They are also not sensitive to what is happening in the store or even in the aisle in terms of markdowns and promotions

It also fails to capture short-term cannibalization-like effects due to unavailability of competing products

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Traditional forecasts depend heavily on manual interventions due to inherent data limitations

Grocers need a mature forecasting framework that can address inherent data limitations

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Lack of historical data: Shorter product lifecycles

Sparse data: Ever-widening assortment breadth

Noisy data: Lack of accurate and clean data

Manual manipulation of data: Lack of grocery-focused data science

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Beyond traditional forecasting – A framework for Agile & Intelligent demand planning

Capture

Ability to consume a **wide variety of data points** that can drive demand without cumbersome configurations

Tailor

Ability to **tailor forecasts at a granular level** (category, store, and channel) by looking at granular data as opposed to rule-based methodology
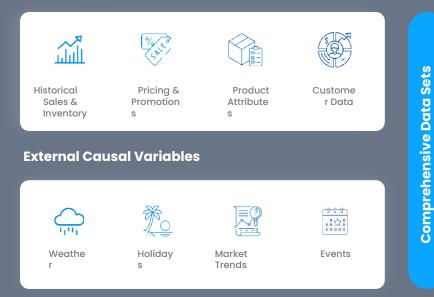
Adapt

Ability to forecast with **agility to react to market circumstances** with minimal manual intervention

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Capture the complete spectrum of Demand Forces

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Internal Data Sets

Historical Sales & Inventory

Pricing & Promotions

Product Attributes

Customer Data

External Causal Variables

Weather

Holidays

Market Trends

Events

Comprehensive Data Sets

Grocers need **multi-variate forecasting** models where potential internal and external indicators of demand are captured as predictors

Evaluation and selection of predictors that are the most impactful should require minimal human intervention

Embedded mechanisms should be able to handle complexities that can arise with noisy, sparse data

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Forecast Right & Order Right by Algonomy

AI-infused 1-click Demand Planning and Replenishment

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Forecast Right: Turbo-charged Intelligent Forecasting

Order Right: Algorithmic Replenishment

Historical Sales Data

Sales predictors : Internal

Historical Sales

Pricing & Promotions

Targets

Marketing

Sales Predictors : External

Weather

Holidays

Market Trends

Events

Ensemble of Forecasting Algorithms

Forecast

Open Orders

Item Parameters

Stock Balance

Optimization Algorithm

Optimal

Replenishment

Schedule

Why Top Grocers Use Order Right

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Built on Forecast Right -the most accurate, smart, and retail-native forecasting solution

Unique replenishment algorithms built specifically for retail

Designed with the business user in mind

Agile and scalable across SKU-category -store-channel

Value Unlocked

10%
reduction in inventory costs

75%
reduction in out-of-stocks

10-30%
reduction in wastage

99%
shelf-availability

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Empowering Top Grocery Chains Worldwide With Intelligent 1-Click Replenishment

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