

**Case Study** 



**How Shelf Engine** 

Increased a National Grocer's Profit Margins by 63.7% While Also Increasing Revenue

### Challenges



# Significant shrink for highly perishables

24% of deli sandwiches and 17% of cut fruit was going unsold. Accurately predicting orders for hundreds of SKUs is incredibly tedious, time consuming, and error prone, even when meticulously considering factors such as shelf life and sales volume. Furthermore, suboptimal product merchandising only exacerbated the situation which led to high levels of unnecessary shrink.

# Unpredictable retail sales performance

Even during normal times, placing orders for perishable products is an impossible task for a human being to do accurately and efficiently. Seasonality, holidays, weather patterns, demographics, or even global pandemics all add to the erratic retail performance in the grocery industry, resulting in large swings in sales and profit margins.





### **Overcoming human bias**

The grocer's existing order software system introduced human bias resulting in empty shelves and missed opportunities for sales. Intelligent software solutions promise to unlock a world of potential for grocers but end up being used as glorified spreadsheets that require the same amount of time and energy to manage.

## Solution

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#### **Analyze**

Shelf Engine's data science team captured historical and regularly updated datasets from the grocer containing daily sales, waste, and delivery data for each store and analyzed them in great depth to calibrate the ordering model.

**Profit Maximizing Order** 



### **Forecast**

Shelf Engine generated new probabilistic models for each unique SKU - for every store, every day. These proprietary models utilized machine learning to account for a wide array of external factors such as weather and event schedules.



### Order

Shelf Engine translated these models to create the perfect order. Each SKU was deliberately priced with a markup less than the grocer's shrink based on a host of variables in order to maintain pre-determined gross margins.



#### Guarantee

Shelf Engine eliminated all of the grocer's inventory risk by guaranteeing sales. Set up as a scan-based vendor, Shelf Engine only charged for the items that sold and covered the cost of all shrink (spoilage, breakage, & theft).

**Cantaloupe Chunks Gross Profit Increase** 



### Results

### **250** Retail locations joined the Shelf Engine platform

**63.7%** Increased profit margins

Throughout late 2019 and early 2020, the produce and deli departments of the National Grocer launched Shelf Engine across 250 retail locations in a new region to begin tackling these daunting ordering challenges for select perishable products.

Compared to historical margins provided by the grocer, these 250 stores saw an average of 25.6% profit margin, up from the historical profit margin of 15.6% at the same locations, which can be directly attributed to Shelf Engine taking on all the inventory risk while maintaining or growing overall revenue.

### \$19.2k

Projected additional annual profit generated by Shelf Engine per store



Projected additional annual profit when Shelf Engine manages the same products in all stores



#### Cumulative Year-To-Date Deli Profit for All Shelf-Managed Locations

### Results



### Generated increased revenue growth for holidays and promotions

Shelf-managed stores exceeded top-line revenue growth compared to non-Shelfmanaged (NSM) locations during every holiday, from Thanksgiving to Independence Day, despite Shelf-managed stores being generally smaller volume locations.

# Increased revenue of top-performing products with field team

Watermelon Chunks had been the grocer's most popular product across all locations in the months leading up to the Shelf Engine launch. With Shelf Engine, locations grew sales of this high-performing product to exceed that of NSM stores by 43.4% while maintaining a constant profit margin of 35.7%.



# Streamlined ordering process

Shelf Engine's automated ordering system alleviated the burden of tedious ordering for the National Grocer, unlocked untold labor savings, eliminated retail markdowns from overordering, and guarded against vendor shorts through high-level supply chain auditing.





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