

TRANSFORM YOUR SHELF

SUMMARY

Shelf Engine predicts how much to order and enabled Molly's to increase sales by 9% and increase total gross profits by 7%.

What is Shelf Engine?

An automated prediction engine that recommends how much to order for all products for every day of the week.

What are the predictions most ideal for?

Food products that are highly perishable: deli items, bakery items, meats, cheeses, etc.

How does Shelf Engine work?

Shelf Engine uses historical data, gross margin, and shelf life to generate a prediction that is profit maximizing.

Why is Shelf Engine better than a human decision?

In most cases, managers don't have all the information needed to make the right decision. Moreover, even when the data is present, it's overwhelming and demands complex forecasting models.

Shelf Engine eliminates the need to sift through all the data, it generates a clear order recommendation. As orders continue to be managed by Shelf Engine, the predictions get more and more accurate.



01 BACKGROUND

BUSINESS MODEL

Molly's produces and delivers sandwiches, salads, wraps, and snacks to over 300 retailers. Customers include hospitals, grocery stores, corporate cafeterias, airports, etc.

As a wholesaler, the majority of Molly's products have a 5-day shelf life because the products are made from fresh, local, and organic ingredients. In addition, Molly's guarantees its sales; the retailer is reimbursed for product that doesn't sell.

Due to Molly's product quality, shelf life, and guaranteed sales, achieving an acceptable gross profit was challenging. In addition, the task of "guessing" what to stock at so many retail locations was becoming unmanage-

THE STUDY

Molly's needed a solution to address their entire book of business, but before fully deploying, Molly's wanted to study the effect of Shelf Engine for 10 of its accounts. These 10 accounts vary from sales volume to seasonality. The purpose was to see Shelf Engine's efficacy across a diverse set of accounts.

02 DISCOVERIES

Current method for managing orders was flawed.

INITIAL DISCOVERIES

Before using Shelf Engine, the historical data at Molly's was analyzed to determine the efficacy of their current ordering method.

The immediate observation was that Molly's was adjusting their order according to the current waste. So, if waste was high, they lowered the quantity delivered, and if waste was low, they increased the amount delivered. Although this may seem like a logical method, it is inherently flawed.

A FLAWED METHOD

Managers react to waste.



When managers react to waste, they are reacting to a single point of data. That decision isn't based on a cumulation of waste and deliveries.

THE MANAGER'S DILEMMA

The inability to appropriately aggregate data handicaps managers. Moreover, the manager's adjustments due to waste is reactionary and creates further complexity.

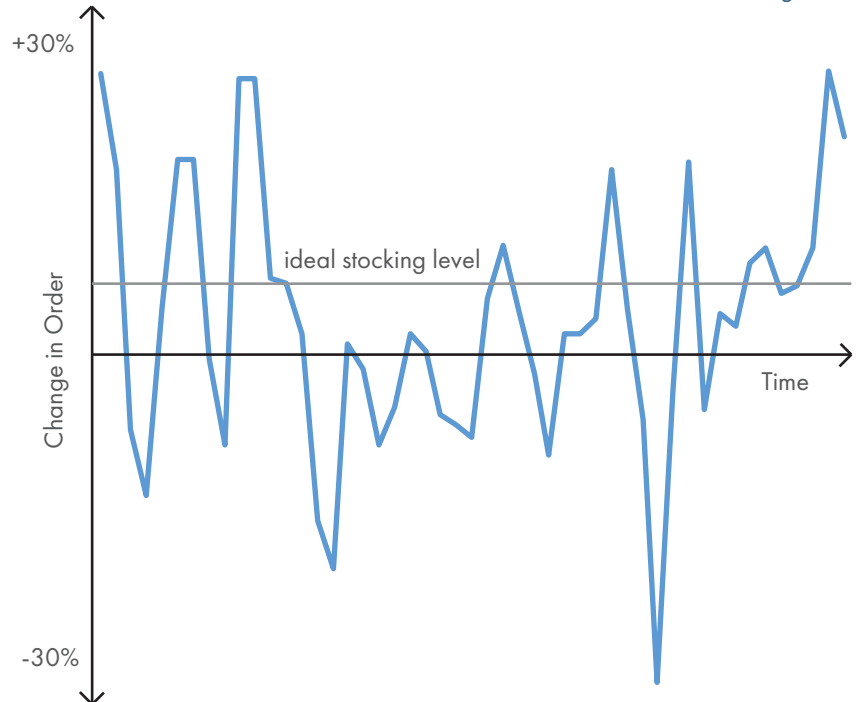
SEATTLE CHILDREN'S HOSPITAL WASTE

figure 2



SEATTLE CHILDREN'S HOSPITAL - CHANGE IN ORDER

figure 1



WHIPLASH EFFECTS

In this example [see figure 1], we see how reacting to waste created erratic deliveries from Molly's for the cafeteria at Seattle Children's Hospital. To compound the negative effect of the changes in order, the changes are way overshooting the ideal stocking level. This creates a "whiplash effect" where orders are rocketing and plummeting.

The net effect is what you see in figure 2. Products are either selling out or have a high level of waste. This means that some weeks the shelf was well stocked, and others were understocked, reducing customer confidence that the products they wanted were reliably available.

03

APPLICATION

Finding a probability model enables fine tuning.

INPUTS

When Molly's began using Shelf Engine, the daily entry of deliveries and waste was recorded through the Shelf Engine app. Molly's had also loaded other necessary information for their menu; shelf life, cost of item, and selling price.

PROBABILITY MODEL

After a week's time, Shelf Engine generated a probability model for all ten accounts. And, as Molly's continued to use the app, the model continued to get more and more robust.

Figure 4 demonstrates how the probability model works conceptually. The probability of units selling or being wasted at any given stocking level. The model then finds the maximum between the two.

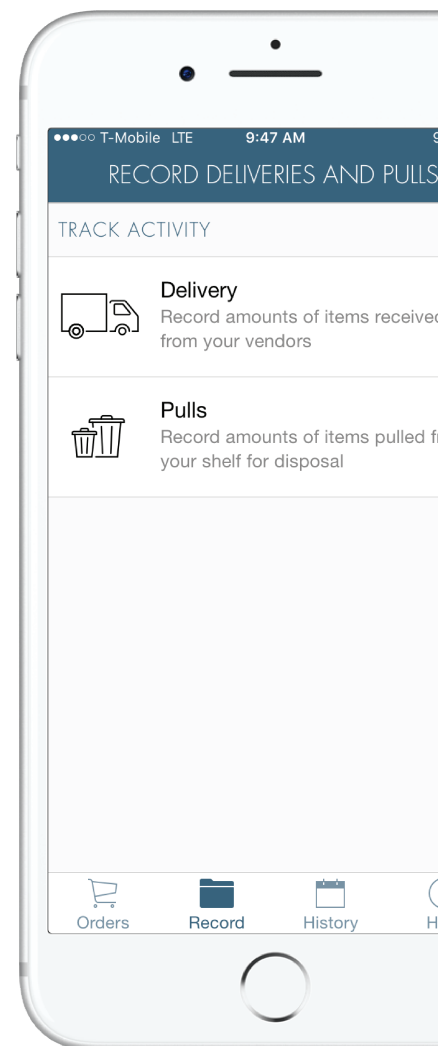
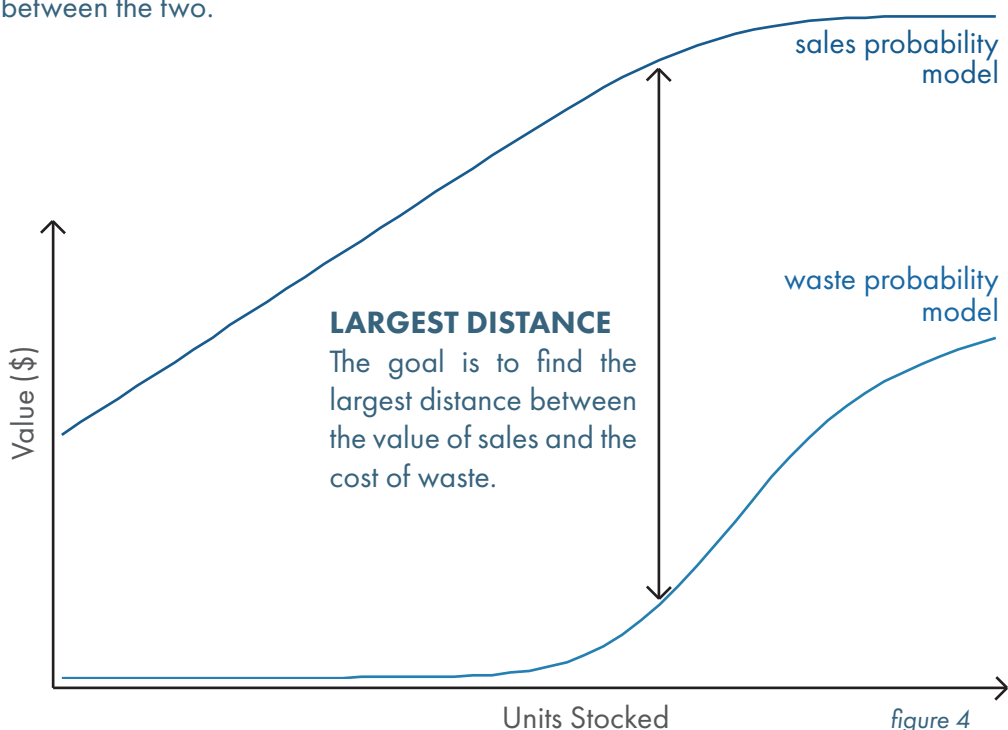


figure 3

04 RESULTS

Tuning every item for every order.

APPROPRIATE STOCKING

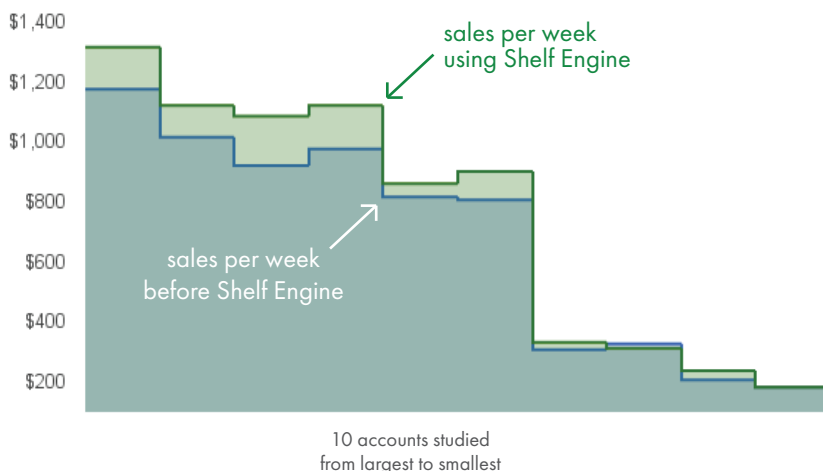
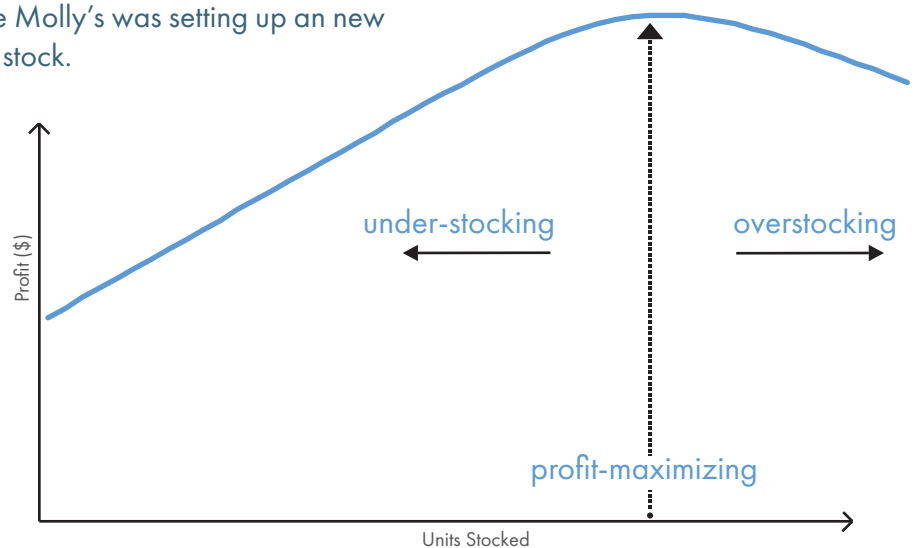
By using the sales and waste probability model, Shelf Engine was able to generate a profit maximizing point for each of the sandwiches and salads stocked on the shelf for each of the delivery days. Every time Molly's was setting up a new order, Shelf Engine would suggest how much to stock.

WHY DID SALES GO UP?

Before using Shelf Engine, Molly's was trying to keep waste below 20%. Although this method is widely accepted, it led to declining sales due to sell outs. The rate of sell-outs was fairly high and created ever declining sales.

WHY DID PROFITS GO UP?

The gross margin for Molly's didn't shift much, but the total profits went up 7% because of increased volume.



HOW DID THIS AFFECT MOLLY'S FOR THE LONG TERM?

After the study concluded, Molly's began using Shelf Engine for all of its customers. The sales increase was not only dramatic for the company's growth trajectory, but the profits put Molly's in an even better position. The effects of Shelf Engine are continuing to be seen as sales continue to rise. Since the rate of sellout has decreased, fewer customers have been turned away and therefore repeat business has increased.

TRANSFORM YOUR BOTTOM LINE



Try Shelf Engine for your own business.
Download Shelf Engine on Android or IOS.
talk@shelfengine.com | www.shelfengine.com