



Forecasting Tool Solution Case Study

Customer Profile

A Major Drug Company (identity withheld) has numerous drugs on the market with a global presence. They manufacture drugs, medical devices and in-license from development companies.

Business Problem: How to determine how many samples to give to a doctor

Sales Reps call on doctor's to discuss their drug with scientific discussions on why their drug is better. They also leave behind samples for the doctor to distribute to make it easier for them to adopt their product. A prescription for a free sample is given to the patient.

This practice creates goodwill from doctors as those patients on hard times can get free medication. This can lead to gratitude from doctor's who feel they need to support companies who subsidize medical costs. It can also lead doctor's to choose the product that is heavily sampled as to which course of therapy they should try with a patient that is not responding to their current therapy.

Samples are considered a cornerstone of any branded product's marketing mix. The value of samples were 10 billion in 2001 and represents half of all Promotional cost¹ but there is a concern that the right doctor's are not getting the proper amount of samples left in their office. There is an inherent risk of not getting the sample strategy right in that too many samples left with a doctor may cause a loss in revenue. Additionally, if there are not enough samples and the doctor writes a different product.

Sales Reps have been handing out samples to the doctor's based on their historical volume. This is good, but it is not as accurate as it could be. The client wants to identify a given doctor's trend so that a **customized** strategy can be applied at a doctor level. For example, a doctor that is increasing their volume over time might need fewer samples since they are adopting the product and they no longer need the lure of samples to convince them that they should write the product.

Solution

Identify the volume that a doctor writes of your branded product and what that is expected to be over the next six months using time series modeling incorporating causal variables.

The client wished to take advantage of state-of-the-art computer and modeling technology by forecasting doctor specific prescribing behavior for the next month. This model would use information such as sales history, national level prescribing data, trend, and seasonal factors along with intervention detection, level shifts and local time trends as needed.

The modeling and forecasting solution chosen was **Autobox**. Autobox was chosen because it has a flexible assortment of models, which are automatically evaluated culminating in the right model for an individual problem.

A system was built around Autobox to make it fully automated and capable of scaling to tens of thousands of Rx series. This system utilizes a very efficient distributed processing model to minimize overall computing costs.



As an added benefit, this solution could also be easily modified to allow for identifying unusual activity in the doctor's writing. An Exception Detection report would help identify doctor's who are likely to be switching from your product to a competitor's product.

Expected Benefits of solution implemented

- Increase revenue by providing a better mix of samples to the right doctor;
- Increase market share,
- Reduce excess samples available to doctor's which in turn decreases the number of renewing patients who get free samples