



CASE STUDY

How To Know When and What A Customer Will Ask For?



Company Info

Name: Favorita Corporation

Location: Ecuador

Industry: Supermarket

Getting ready for you.

Predicting product sales for a large corporate chain

How to know what and when a customer will ask for? This simple question has huge implications for a grocery store and mainly when related to perishable products. Guess a little over, and the store will get stacked with different products, guess a little less, and the store will face a loss of sales and unhappy customers.

This problem becomes more serious when you consider a chain of stores, seasonal and new products, and other continuously evolving factors.

This is one of the challenges that Corporación Favorita, an Ecuadorian store chain present in six Latin American countries, faces daily.

Currently, their employees make predictions with little data and subjective methods. However, with an ever-expanding business, they realized that they have to improve their forecasts and use the vast dataset accumulated throughout decades of doing business. Thus, they decided to find a forecasting method based on machine learning.

“We always ask ourselves: if we were the final users of the model, what would we need to make it work?”



Power of LogicPlum

LogicPlum's platform is an engine that works through four main technologies: automation, AI, machine learning, and natural language generation. This combination has proven to be successful in many data-driven problems, as it allows for the training and checking of hundreds of algorithms in a short time. As a result, the best performing alternatives can be selected and shaped into an efficient prediction model.

“This methodology scores very well in today's algorithmic jungle,” explained one of LogicPlum's data scientists.

And then he added: *“The huge amount of different algorithms and many ways to combine them has resulted in a situation where it is almost impossible for any data scientist to know them all. Therefore, our task becomes subjective, as it depends on how we select a specific solution. LogicPlum's platform eliminates this subjectivity because a computer system can train and test many models swiftly, and select the best based on a performance metric”.*

With this platform, the team of LogicPlum's data scientists decided to develop a prediction model for Corporación Favorita.

Meaningful Forecasts

The team examined the dataset. It contained more than 125 million rows of daily sales data for over 4,000 products sold at 54 different store locations.

The team created a database and linked it to the system. Once the platform was connected to the database, it began to work automatically.

First, LogicPlum reduced the number of features, it corrected negative values and replaced missing ones with zero. Then, it built hundreds of different algorithms.

“The best model was a blend of four different base models with prediction error rate of 0.5061 Normalized Weighted Root Mean Squared Logarithmic Error. We selected this metric because sales values vary substantially in magnitude,” declared the team leader.





★ Designed for Maximum Flexibility

"We always ask ourselves: if we were the final users of the model, what would we need to make it work? LogicPlum's answer to this question is: a product," explained the team leader.

Thus, the team set about the task with grim concentration. First, they developed a user interface tailored to a store manager's needs and connected it to the platform via LogicPlum's single point API. As managers vary in skill and ways to work, this interface provided the necessary flexibility to handle the forecasting model according to their specific needs.

Then, they documented the whole project and created a user manual. For this task, they used R.E.A.S.O.N.™, a module that uses natural language generation methods to highlight concepts, show relationships, and write content. By the end of the day, the project had been completed.

"We took a challenge that became a solution. In this way, we help companies become more innovative, reduce costs, move from uncertainty to choice, and improve customer satisfaction", ended the team leader.



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