forecast

CASE STUDY

Estimating Rental Expense & Affordability

Financial Services.

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Client

Our client is a national retail bank with a full range of banking products and services, including credit cards, savings and loans, mortgages, and insurance. They are a modern banking organisation utilising today's technology to deliver premium service and products to their customers.

Purpose

The client asked Forecast to lead and update their affordability engine for personal finance (calculating the net free funds), which is a key metric in most lending and marketing decision making processes. With rental expenses an important component of an individual's expenses, the analytics team is responsible to deliver accurate measures when explicit rental expenses are unavailable.

Key deliverables and functionality of the solution included:

- Constructing the dataset using Teradata and SAS from customer transaction and loan application data
- Extensive review of existing methodology to calculate rental cost
- A collection of machine learning models to compare the best strategy to target the problem
- An insight into people with zero housing costs
- Deployment of Forecast in-house demographics data to enhance predictive model performance

Approach

Working together with the Data & Analytics team, Forecast reviewed the existing methodology used to estimate their customer's rental expenses. The joint team then set to define possible approaches to improve on the existing solution, and with the help of business stakeholders, framed the data requirements. With the data pipeline built using Teradata and SAS, Forecast implemented multiple machine learning algorithms in R to estimate housing costs.

Forecast's different approaches led to an improvement in the evaluation metric by over 50% over the existing methodologies developed internally. In just four weeks, Forecast was able to understand the problem, review the current solutions, devise and develop new approaches, and deliver models that outperform significantly. Forecast also demonstrated the value added by its in-house demographic dataset to the problem.

Outcome

The models predicting the rental expense for the personal banking book fit into a wider approach the bank is taking to estimate the affordability of other value-adding products the bank offers. Compared to the existing approach, the short engagement delivered a 50%+ uplift in performance, leading to more accurate estimates of affordability informing a range of decision-making processes. Forecast has demonstrated the added value of using multiple external sources data sources to tackle the problem.

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