Customer Retention & Targeted Recommendations

CLIENT & SCOPE
We spent our summer with BCG GAMMA as part of a larger analytics and consulting team for a direct seller based in China. The scope was to develop a suite of predictive and prescriptive tools to help reduce customer churn and promote customer advancement, delivering these insights straight to the customer’s hand through their smartphone apps.

TIMELINE
We were on a different project focusing on predictive maintenance for a large electronics distributor.

PROJECT PIPELINE & METHODOLOGY
Monthly Behavior Data
Monthly Award & Achievement Data
Regional Income Data
360° Customer View Database

Cluster Customer Archetypes
Use behavioral data to identify types of customers

Year 1 Renewal Model
Use first 3 months of data to predict renewal at end of 1st year

Yearly Award Migration Model
Use first 3-6 months of data to predict award status movement at end of year

Monthly Bonus Achievement Migration Model
Use 6 months of data to predict bonus movement in next 6 months

Recommendations Development
Devise potential interventions and map them to customer archetypes

Profile & Prediction
Shapley Drivers
Recommended Intervention

Personalized Recommendations
API Interface to client app

Testing & Improvements
Compare impact of personalized recommendations to target group vs random recommendations to control group

NEXT STEPS
We rolled off the project while it was still in development. Some key next steps that have been planned include testing of recommendation effectiveness, analytics capability building and a management dashboard for the client to keep track of these trends, predictions and actions.

Main dataset spans 7 years and includes >438 million monthly records, >275 variables and >17 million customers

Consolidated multiple databases and created additional features such as time-based aggregate performance, relative behaviors to others in the same cohort, producing >600 variables

Renewal rates have been declining, motivating a model that helps reduce customer churn

Number of customers signing up in China (K)

Tree-based models XGBoost produce predicted scores allow us to target segments of the at-risk population more effectively

Unlike traditional feature importance, Shapley values are generated for each prediction, allowing greater explainability to a client unfamiliar with analytics, and provides useful prescriptive tools.

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