

Customer: Large UK Retail Banking Group

# Machine Learning propensity model

Using machine learning to understand customer behaviour and identify high potential marketing leads, significantly increasing new customer acquisition.

## Situation

*“Over 90% of customers who started the onboarding journey dropped out before successfully opening the product”*

Customer acquisition for niche products is hard. A lot of time and effort can be wasted chasing dead ends unless you can identify and target people who have a real need. Machine learning can enable this, revealing the hidden indicators in transaction data and enabling a much better understanding of a customer's propensity to buy.

## Value Goal

To significantly increase the new business conversion rate for an investment product by using machine learning to analyse data about previous sales and drop-outs, together with current customers and their transaction data, enabling the marketing team to identify and target customers most likely to complete a purchase.

## Our Approach

### Process and profile visualisation

We used data visualisation to understand the typical journeys and characteristics of customers who completed new business onboarding and those who did not. From this we were able to identify features and events in the process that indicated the likelihood of success of onboarding.

### Transactional behaviour profiling

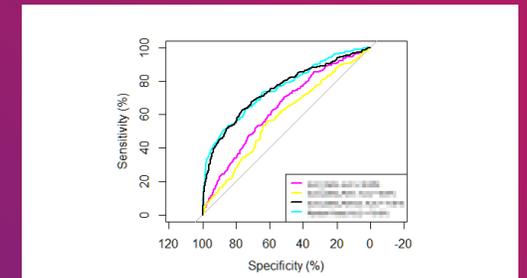
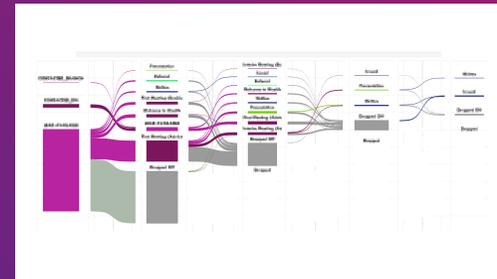
We applied Natural Language Processing and Principal Component Analysis to build aggregated behavioural profiles for customers based on transactions. What we discovered about the transaction behaviour of customers who tended to complete onboarding was significantly at odds with existing beliefs and resulted in fundamental changes to our client's marketing approach.

### Predictive machine learning models

Using what we'd learnt from our customer behaviour and transaction profiling, we built and tested different machine learning algorithms to predict which customers would successfully complete an onboarding journey.

# Results

Our client achieved a 25% increase in successful onboarding journeys, resulting in more than £20m of additional annual revenue.



## Impact

Applying the predictive model to the retail customer base identified a large pool of leads that previous methods did not find and significantly increased the onboarding success rate. In addition to this, because the model identified leads more likely to complete, the average onboarding journey time was reduced by 25%, saving time and cost.