

Propensity to Lapse Model building Exercise

Concept:

A Loyalty business partner has shared their raw customer transaction data with us with the intent to analyze and predict customer churn. The firm runs a successful reward system where the customers collect points from flights or purchases from affiliated partners (e.g. Tesco or Apple etc) which they then redeem to book flights, hotels or rent a car. Here, after conducting the data and feature engineering process we have resulted in the given dataset. The State field (Label) is the customer current lapsing status (Active or Lapsed converted in a Boolean form – Active= 0, Lapsed=1).

Lapse Definition

When a customer does not have any collections or redemptions for a consecutive 12 months e.g. if a customer last collected in April 2015 and then didn't collect/redeem until May 2016 then they are categorized as lapsed.

Collections Definition

A customer interacts with the business partner to add loyalty points to their collection e.g. the customer purchases an item from a shop (which is a loyalty partner) and they win points that are added to their Balance.

Redemptions Definition

A customer uses some of the loyalty points they have in their Balance, e.g. they redeem X points to book a flight. The points redeemed are subtracted from the Balance

Task:

- I. Build a Machine Learning Model, using the Azure Machine Learning Studio as a working environment, that successfully predicts if a customer with the given characteristics will Lapse in the next 12 months.
- II. Publish the above model in Microsoft Azure cloud in order to consume flat files with customer activity data and produce a flat file with predictive results that can be used by the marketing team of the firm.

Dataset:

The given dataset consists of 5000 observations (customers) having the below fields (characteristics):

State: Lapsed status (Active= 0, Lapsed=1)

Sum_collect: how many times a customer collected

Sum_redeem: how many times a customer redeemed

Sum_collect_points: how many points a customer has collected in total

Sum_redeem_points: how many points a customer has redeemed in total

Years_in_the_program: years since customer's registration to the program

Months_since_last_transaction: months passed since customer's last action (collection or redemption)