Airline Big Data Analytics and Clustering using R

BUSINESS PROBLEM

Enhancing customer loyalty is of high importance in the airline industry for sustained growth, success, and profitability. There is a need to identify customer segments to appropriately customize marketing campaigns and travel offers.

STRATEGY

Perform unsupervised machine learning techniques to identify various customer segments and their properties. Understand the key factors influencing customer loyalty to efficiently segment customers based on their loyalty scores.

SOLUTION

Apply clustering to identify an optimal number of clusters to attain the best results. Concluded to achieve to creation of two clusters. One cluster is for frequent flyers and the other is for non-frequent flyers. These were identified through the number of miles flown, credit card usage for miles, an whether or not the customer has earned a travel award before.

EXECUTION

Based on the above clusters we can recommend the following offers that can be given to attract increased enrolled in the loyalty program.

CLUSTER 1 NON - FREQUENT FLYER OFFER

We should aim to make these customers choose our airline every time they fly.
Offer 1: Redemption of their miles Balance towards the flight ticket.
Offer 2: Booking a round trip with us for a travel of more than 10,000 miles, enables an upgrade for 60% off.

CLUSTER 2 FREQUENT FLYER OFFERS

We aim to utilize the liking of these customers towards our airline to attract more customers.
Offer 1: Get an upgrade when you add an adult membership and book through balance miles for both.
Offer 2: Get 3X miles when two referred friends book their first flight.

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