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Analyzing Customer Sentiments and Recommendation Factors in Airline Reviews(407 words)

Research Question:

How do different aspects of airline service (e.g., seat comfort, staff service, food quality) shape customer sentiments and their likelihood to recommend the airline?

Data:

For this study, I will use a publicly available dataset from the Airline Quality website, containing 7,614 reviews of the top 10 rated airlines in 2023. The dataset includes 17 columns, with key features such as the "Reviews" column, which contains the customer's feedback, and the "Airline" column, indicating which airline was reviewed. The airlines in the dataset include Singapore Airlines, Qatar Airways, ANA, Emirates, Japan Airlines, Turkish Airlines, Air France, Cathay Pacific Airways, EVA Air, and Korean Air.

The dataset provides insights into various aspects of the flight experience, such as seat comfort, staff service, food and beverages, inflight entertainment, and value for money, all rated on a scale. The "Overall Rating" column summarizes the customer's experience, while the "Recommended" column shows whether they would recommend the airline. Additional columns, like "Title of Review," "Type of Traveller," "Class," "Route," and "Month Flown," offer context to the review, including the traveler's type (e.g., business, family leisure, solo leisure), flight class (e.g., Economy, Business), route, and time of travel. This combination of quantitative ratings and qualitative feedback, along with diverse data points, makes the dataset ideal for sentiment analysis and customer satisfaction studies, helping to identify trends in airline service quality across various flight scenarios.

Method:

For this analysis, I will focus on the Reviews column, which contains the text of customer feedback, and use Empath, a lexicon-based sentiment analysis tool, to analyze the emotional tone of the reviews. This will generate sentiment scores for each review, which will be used as part of the analysis. In addition to the sentiment scores, ratings from the Seat Comfort, Staff Service, Food & Beverages, Inflight Entertainment, Value for Money, and Overall Rating columns will be included to evaluate how different aspects of the flight experience influence customer sentiment. The Recommended column will be the target variable for training a Random Forest Classifier to predict whether a customer would recommend the airline based on these factors. Finally, I will apply Topic Modeling to the Reviews column to uncover common themes or topics discussed by

customers, helping to identify recurring issues or experiences that influence sentiment. This combined approach will allow for both the prediction of customer behavior and the extraction of deeper insights into the factors driving customer opinions and recommendations.

References:

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