

BRITISH AIRWAYS

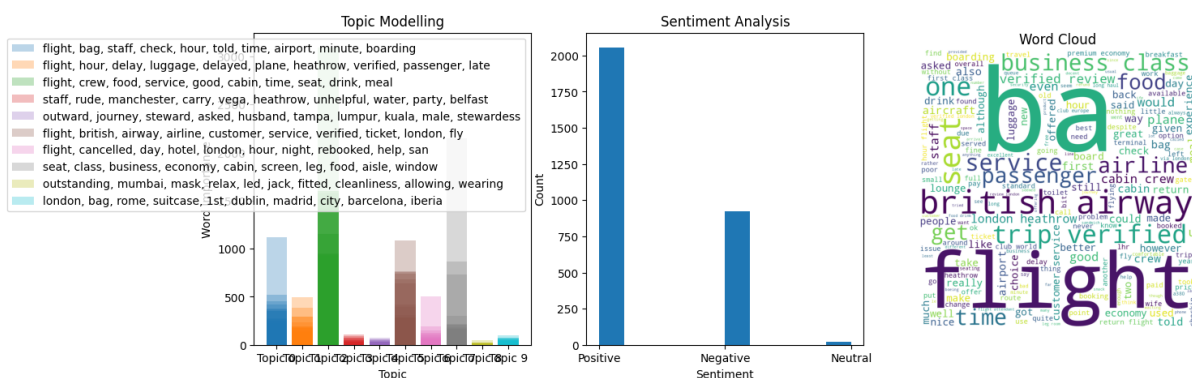


Report on Customer Feedback Analysis and Booking Prediction for British Airways

This report presents the outcome of using data science to analyze customer feedback and booking data for British Airways (BA). The report aims to provide insights and suggestions for enhancing BA's business strategy. The report consists of two parts:

Customer feedback analysis: Natural language processing (NLP) and topic modeling was leveraged to to extract themes and sentiments from customer reviews scrapped from a popular third-party website that allows customers to rate and review airlines and airports, Skytrax.

The customer feedback data reveals four main topics amongst others including: in-flight food & Drink service, leg spacea and comfort at various classes, baggage allowance and customer service. The sentiment analysis shows that most of the reviews are positive, followed by negative and neutral.



Visualizing Topic Modeling, Sentiment Analysis, and Word Cloud for Customer Feedback Analysis

Booking prediction: Machine learning was applied to a dataset comprising 50,000 booking activities, encompassing 799 destinations, 3 trip types, leveraging both mobile and internet sales channel, and 104 countries where booking was made; to predict booking completion

and identified the factors that influence booking success. The predictive model achieves an accuracy of 85.27% in forecasting booking completion.

The booking data revealed that the most important factors that influence booking completion in descending order of importance are:

purchase_lead: number of days between travel date and booking date

Route: origin -> destination flight route.

Flight_hour: hour of flight departure

Length_of_stay: number of days spent at destination

Booking_origin: country from where booking was made

Flight_day: day of week of flight departure

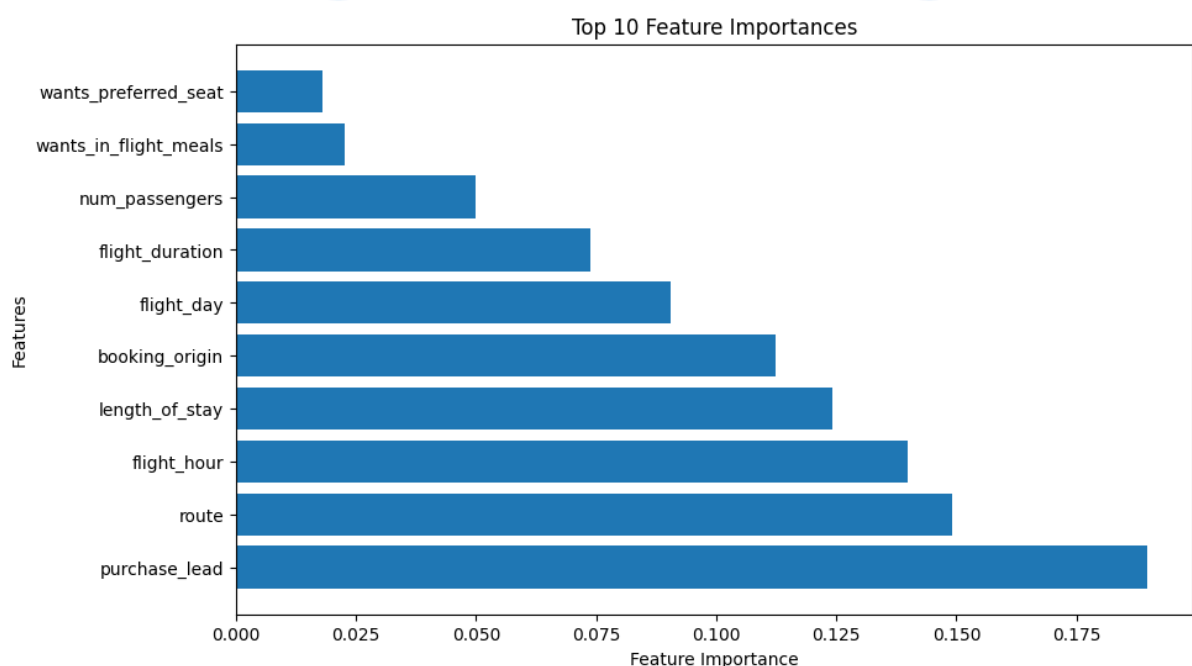
Flight duration: total duration of flight (in hours)

Num_passengers: number of passengers travelling

Wants_in_flight_meals: if the customer wanted in-flight meals in the booking

Wants_extra_baggage: if the customer wanted extra baggage in the booking

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Visualizing factors that influence booking completion

Recommendations:

Enhance Services: Strengthening in-flight food & drink service, improving leg space and comfort across different classes, and optimizing baggage allowance can further elevate customer satisfaction.

Customer Targeting: Utilising insights from booking prediction to tailor marketing strategies. Target customers based on important factors that influence booking completion as highlighted above.

In conclusion, this data-driven analysis furnishes British Airways with a strategic roadmap for exceeding customer expectations and maximizing booking success. By implementing the suggested improvements and harnessing predictive insights, BA can solidify its position as the preferred airline choice. The integration of customer feedback analysis and booking prediction forms a robust foundation for strategic decision-making and continuous enhancement.

