

**HIGH ENOUGH?
EXPLAINING AND PREDICTING TRAVELER SATISFACTION
USING AIRLINE REVIEWS**

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INTRODUCTION

Air travel is one of the most frequently used means of transportation in our everyday life. In the last decades, air travel has become one of the most frequently used means of transportation.

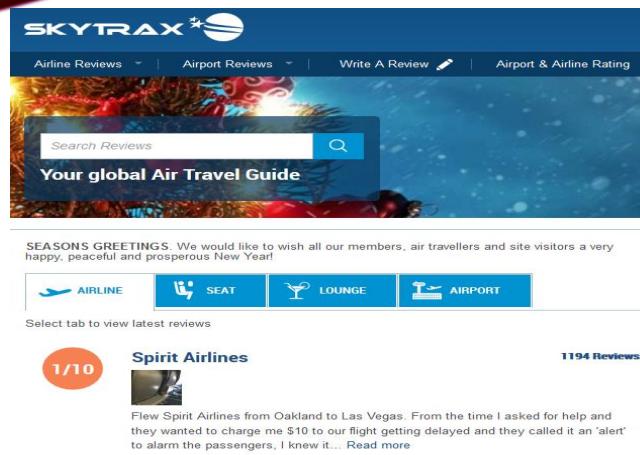
Thus, it is not surprising that an increasing number of travelers share their experiences with airlines and airports in form of online reviews on the Web. In this work, we thrive to explain and uncover the features of airline reviews that contribute most to traveler satisfaction.

Each review category consists of several five-star ratings as well as free-text review content.

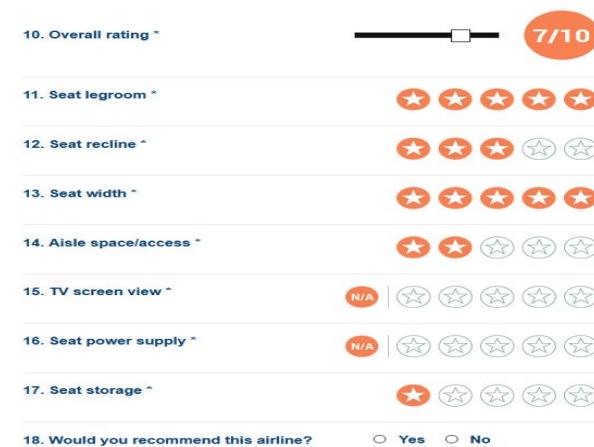
KEYWORDS

- Airlines reviews
- Skytrax
- Traveler satisfaction
- User satisfaction prediction
- Advantage and Disadvantages
- Features analysis

AIRLINES REVIEW



a) Reviews



b) Ratings

- ✓ RQ1: Which airline review features are most indicative for traveler satisfaction?
- ✓ RQ2: To what extent can we predict traveler satisfaction using the available rating and inferred sentiment of airline reviews?

SKYTRAX

- ❑ Skytrax, the international air transport rating organization, was established in 1989, and is based in London, UK.
- ❑ Introduce in 1999, the world Airline and Airport Star Rating Program.

New Update

- ❖ In August 2020, Skytrax launched the [COVID-19 safety ratings](#) covering airlines and airports across the world.

EXPLAINING TRAVELER SATISFACTION AND METHODOLOGY

We use the overall rating to evaluate how the different review features influence the traveler's satisfaction.

- ✓ Overall scores
- ✓ Rating and inferred features with the overall ratings by user
- ✓ Reviews on Airport, Lounge, Airlines and Seat.

REVIEWS

Airport reviews		
Feature	F1	AUC
Overall	0.963	0.948
Queuing	0.869	0.875
Airport shopping	0.859	0.876
Terminal cleanliness	0.828	0.814
Terminal seating	0.791	0.534
Food beverages	0.792	0.530
WiFi connectivity	0.774	0.519
Terminal signs	0.800	0.502
Airport staff	0.678	0.499
Combination	0.967	0.976
Airport Sentiment	0.719	0.715

Lounge reviews		
Feature	F1	AUC
Overall	0.834	0.878
Comfort	0.762	0.839
Staff service	0.768	0.819
Bar beverages	0.783	0.838
Catering	0.783	0.829
Cleanliness	0.773	0.817
Washrooms	0.750	0.826
WiFi	0.743	0.795
Combination	0.837	0.884
Lounge Sentiment	0.773	0.822

Airline reviews		
Feature	F1	AUC
Overall	0.838	0.971
Value money	0.863	0.940
Cabin staff	0.794	0.884
Seat comfort	0.750	0.843
Food beverages	0.741	0.827
Inflight entertainment	0.693	0.754
Ground service	0.622	0.533
WiFi connectivity	0.615	0.509
Combination	0.842	0.975
Airline Sentiment	0.839	0.896

Seat reviews		
Feature	F1	AUC
Overall	0.939	0.985
Seat legroom	0.872	0.919
Seat width	0.847	0.890
Aisle space	0.840	0.895
Seat recline	0.802	0.855
Viewing TV	0.730	0.759
Seat storage	0.711	0.576
Power supply	0.647	0.529
Combination	0.925	0.984
Seat Sentiment	0.812	0.849

✓ Reviews on Airport, Lounge, Airlines and Seat.

PREDICTING TRAVELER SATISFACTION AND METHODOLOGY:

- Formulate the task a binary classification problem.
 - Given reviews marked as either positive or negative satisfaction.
- In this work, however, we report the results of the Hoeffding Tree.
- We chose this algorithm due to its practical advantage for real-time data mining.

METHODOLOGY

- ✓ To determine the best performing features for traveler satisfaction prediction, we trained and evaluated the classification model in the following three settings.
 1. for each single rating feature, we created a separate classifier and evaluated its performance.
 2. we used a combination of features that highly correlate with the traveler satisfaction while having a low inter-correlation
 3. we trained a model solely based on the inferred review text sentiment.

ADVANTAGES OF AIRLINE REVIEWS:

- 1. World's best Airlines.**
- 2. The services of the airlines.**
- 3. Latest airports reviews.**
- 4. Customer travelling Satisfaction.**
- 5. All Classes of latest lounge .**
- 6. COVID safe travelling.**
- 7. Rating of all classes seats.**

DISADVANTAGE OF AIRLINE REVIEWS:

- 1. Going Through Security.
- 2. Cramped Economy Flights.
- 3. Traveler can't carry any food.
- 4. Expensive Airports.
- 5. Delays, Cancellations, and Lost Baggage.
- 6. Passports, Bureaucracy, and Luggage Collection.
- 7. Traveling To and From the Airport.
- 8. Traveler can't fixed the time schedule.
- 9. Inconsiderate and Noisy Neighbors .

CONCLUSION

In this paper, we discuss how online reviews can be an important source of information to explain (RQ1) and predict (RQ2) traveler satisfaction. We utilized data crawled from the Skytrax portal in order to show that rating features such as airport queuing time, lounge comfort, airline cabin staff quality and seat legroom size highly contribute to the overall traveler satisfaction.

Based on these findings, we trained several classifiers and we report the results of the Hoeffding Tree algorithm. The algorithm is especially suited for real-world settings, where the goal is to continuously mine and predict traveler satisfaction using online reviews.



Thank You