Quality Analysis of United States Commercial Air Carriers: Airline Quality Rating 2019

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History of the Airline Quality Rating

- The Airline Quality Rating (AQR) was created and first announced in 1991 by researchers Dr. Brent D. Bowen and Dr. Dean E. Headley.
- Before the AQR there was no consistent method for monitoring airline quality in a timely, objective, and comparable basis.
- With the introduction of the AQR, a multi-factor weighted average approach became available that had not been used previously in the airline industry.
- AQR weighting was originally established by surveying 65 airline industry experts regarding their opinion as to what consumers would rate important (on a scale of 0-10) in judging airline quality.
- In the spring of 2002, a nationwide survey of frequent flyers was conducted to revisit AQR weightings.
  - Analysis of 766 opinions showed no appreciable difference in relative weights for AQR elements.
  - To maintain comparability over the years, the weights have been held constant.
Methodology

Multi-Factor Weighted Average Approach: The Airline Quality Rating uses a mathematical formula that considers multiple weighted objective criteria to arrive at a single, fully comparable rating for airline industry performance. The AQR provides both consumers and industry watchers a means for monitoring comparative quality for each airline on a timely basis, using objective, performance-based data.

• Elements considered for inclusion needed to meet two basic criteria;
  ▪ 1) an element must be obtainable from published data sources for each airlines
  ▪ 2) an element must have relevance to consumer concerns regarding airline quality

• This report relies on published, publicly available data from the Department of Transportation's Air Travel Consumer Report
# Airline Quality Rating Criteria

## Criteria, Weights, and Impact

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Weight</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>OT On-Time Arrivals</td>
<td>8.63</td>
<td>+</td>
</tr>
<tr>
<td>DB Involuntary Denied Boardings</td>
<td>8.03</td>
<td>-</td>
</tr>
<tr>
<td>MB Mishandled Baggage</td>
<td>7.92</td>
<td>-</td>
</tr>
<tr>
<td>CC Consumer Complaints</td>
<td>7.17</td>
<td>-</td>
</tr>
</tbody>
</table>

## Mathematical Formula for Calculation of AQR Scores

\[
AQR = \frac{(+8.63 \times OT) + (-8.03 \times DB) + (-7.92 \times MB) + (-7.17 \times CC)}{(8.63 + 8.03 + 7.92 + 7.17)}
\]
### 2018 Consumer Complaint Percentages by Category

#### Pie Chart
- **Flight Problems**: 36.90%
- **Baggage**: 13.00%
- **Customer Service**: 12.10%
- **Reservations, Ticketing, Boarding**: 10.10%
- **Fares**: 8.70%
- **Disability**: 7.50%
- **Refunds**: 4.70%
- **Other**: 3.00%
- **Oversales**: 2.80%
- **Discrimination**: 0.90%
- **Advertising**: 0.30%
- **Animals**: 0.00%

#### Table

<table>
<thead>
<tr>
<th>Category</th>
<th># Received</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flight Problems</td>
<td>3,271</td>
</tr>
<tr>
<td>Baggage</td>
<td>1,156</td>
</tr>
<tr>
<td>Customer Service</td>
<td>1,073</td>
</tr>
<tr>
<td>Res, Ticket, Board</td>
<td>895</td>
</tr>
<tr>
<td>Fares</td>
<td>773</td>
</tr>
<tr>
<td>Disability</td>
<td>665</td>
</tr>
<tr>
<td>Refunds</td>
<td>419</td>
</tr>
<tr>
<td>Other</td>
<td>270</td>
</tr>
<tr>
<td>Over sales</td>
<td>247</td>
</tr>
<tr>
<td>Discrimination</td>
<td>80</td>
</tr>
<tr>
<td>Advertising</td>
<td>26</td>
</tr>
<tr>
<td>Animals</td>
<td>1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>8,876</td>
</tr>
</tbody>
</table>
2018 Airline Performance

Improved

Six Airlines improved their scores from the 2018 Report:

- Delta Air Lines
- Hawaiian Airlines
- JetBlue
- Southwest Airlines
- Spirit Airlines
- United Airlines

Declined

Three Airlines’ scores declined from the 2018 Report:

- Alaska Airlines
- American Airlines
- Frontier Airlines

Overall Industry Performance improved from a score of -0.79 in 2017 to a score of -0.66 in 2018 and has improved each year for the past four years.
Trend analysis

Analysis of Airline Quality Rating monthly industry scores for 2017-2018 shows consistent, periodic declines in winter months January and December and peak periods just before and after in November and February. Trend analysis of 2017-2018 forecasts a positive upward trend that continues into the future.
## 2018 Annual Ratings by Category

<table>
<thead>
<tr>
<th>Airline</th>
<th>On-Time Arrival (percentages)</th>
<th>Denied Boardings (per 10,000 passengers)</th>
<th>Mishandled Baggage (per 1,000 passengers)</th>
<th>Consumer Complaints (per 100,000 passengers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alaska Airlines</td>
<td>0.818</td>
<td>0.23</td>
<td>2.67</td>
<td>0.57</td>
</tr>
<tr>
<td>American Airlines</td>
<td>0.784</td>
<td>0.20</td>
<td><strong>3.83 (9&lt;sup&gt;th&lt;/sup&gt;)</strong></td>
<td><strong>1.38</strong></td>
</tr>
<tr>
<td>Delta Air Lines</td>
<td>0.857</td>
<td>0.00 (1&lt;sup&gt;st&lt;/sup&gt;)</td>
<td>1.80</td>
<td>0.65</td>
</tr>
<tr>
<td>Frontier Airlines</td>
<td><strong>0.694 (9&lt;sup&gt;th&lt;/sup&gt;)</strong></td>
<td><strong>0.63 (9&lt;sup&gt;th&lt;/sup&gt;)</strong></td>
<td>2.60</td>
<td><strong>4.02 (9&lt;sup&gt;th&lt;/sup&gt;)</strong></td>
</tr>
<tr>
<td>Hawaiian Airlines</td>
<td><strong>0.893 (1&lt;sup&gt;st&lt;/sup&gt;)</strong></td>
<td>0.01</td>
<td>2.59</td>
<td>1.10</td>
</tr>
<tr>
<td>JetBlue</td>
<td>0.710</td>
<td>0.01</td>
<td>1.79</td>
<td>0.99</td>
</tr>
<tr>
<td>Southwest Airlines</td>
<td>0.792</td>
<td>0.15</td>
<td>2.89</td>
<td><strong>0.36 (1&lt;sup&gt;st&lt;/sup&gt;)</strong></td>
</tr>
<tr>
<td>Spirit Airlines</td>
<td>0.811</td>
<td>0.56</td>
<td><strong>1.76 (1&lt;sup&gt;st&lt;/sup&gt;)</strong></td>
<td>2.83</td>
</tr>
<tr>
<td>United Airlines</td>
<td>0.779</td>
<td>0.01</td>
<td>2.56</td>
<td>1.28</td>
</tr>
<tr>
<td>Industry</td>
<td>0.796</td>
<td>0.14</td>
<td>2.43</td>
<td>1.04</td>
</tr>
</tbody>
</table>
Airline Comparison

AQR Scores

- Delta: -0.36
- JetBlue: -0.48
- Southwest: -0.62
- Alaska: -0.63
- Hawaiian: -0.65
- United: -0.72
- Spirit: -1
- American: -1.1
- Frontier: -1.53

Industry Average

Graph showing AQR scores for various airlines compared to the industry average.
The Researchers

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Previous Airline Quality Rating Reports


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