

# **Data-Driven Analysis of Ticket Options in the Airline Industry**

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## **Abstract**

Airlines offer a variety of flight ticket options at different price levels. The application of diverse revenue management models by airlines can result in significant price disparities, leading to scenarios where two passengers on the same flight, seated adjacent, may pay markedly different fares. This phenomenon often incentivizes passengers to book their tickets well in advance. However, this strategy entails a risk of purchasing tickets that may ultimately go unused. One proposed solution to mitigate this issue is offering various ticketing options. Such options include varied ticket classes with distinct features, additional services enabling ticket return or reissue, and price hold options. This study analyzes the impact of different ticket classes, extra services, and price hold options on customer satisfaction, airline revenue, and flight capacity utilization. The study commences with a comprehensive analysis of these various options. Subsequently, a survey involving 103 respondents from Kuwait was conducted. Passenger preferences were analyzed to determine their inclination towards purchasing ticket options and at what price levels they are likely to buy different flight options. Additionally, the analysis covered airline class preferences and customer priorities regarding in-flight amenities. A Monte Carlo analysis was utilized to conduct a feasibility study of these ticket options. Survey data was utilized to model stochastic customer behavior and preference patterns at diverse price points. The findings suggest that the introduction of these options enhances airline profitability, flight capacity utilization, and customer satisfaction.

## **Keywords**

Airline Revenue Management, Monte Carlo Simulation, Customer Preference Survey, Aviation Industry

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