Abstract

This study analyzes factors that affect on-time arrival of flights at the main U.S. airports. Based on the on-time arrival data of 38 major domestic airports in 2008, we use container analysis and multiple regression models to identify the influential factors on arrival on-time performance of flights at each airport. Among all the factors we consider, time-related factors, such as time zone and day of the week, have the most significant impact on arrival on-time performance. The location of the airport, such as the size of the airport, also has a significant effect on the arrival on-time performance. airline companies, and the weather conditions are also important factors that affect the arrival on-time performance of flights. Among all the factors, airline companies have the least significant effect on the arrival on-time performance of flights.

Therefore, the analysis of on-time arrival data at major domestic airports in 2008 points to the following conclusions: (1) the arrival on-time performance of flights at major airports is mainly affected by the airline companies, and weather conditions are also important factors. (2) the on-time arrival performance of flights at major airports is not significantly different; however, there is significant variation between flights of different airlines.

Keywords: airline companies, weather conditions, location of airport, time-related factors, on-time arrival performance.