

Geographical Characteristics, Service Strategy and Operating Performance
in Chinese Airports

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Abstract

China has experienced tremendous growth in recent decades. Only thirty years ago, its aviation sector was ranked 37th in terms of revenue passenger kilometers (RPK) in the world. Now it is ranked second. This paper intends to measure whether the geographical characteristics and service strategies of airports influence the performance of Chinese airports by using the two-stage bootstrapping DEA method. Two capital inputs (total length of runway(s) and terminal size) and three airport outputs (passenger throughput, cargo throughput, and aircraft movements) were used in the analysis. A double bootstrap DEA procedure is used to estimate bias-corrected technical efficiency of 41 Chinese airports for the year 2008. The resulting DEA scores are then regressed on environmental factors via a truncated regression methodology. The research results show that, for the geographical characteristics, airports located in level 1 city are more efficient than those for other city levels. For the flight area grade, airports that are 4F or 4E are operated more efficiently than other categories. For the service strategies, airports that are served by more airlines are more efficient compared to others. It is interesting to observe that the distance between an airport and the CBD of the city in which the airport is located does not significantly affect its performance.

Keyword : Airport, Location, Destination, Efficiency, DEA