

Performance Evaluation for Airports in Taiwan

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Abstract

The performance evaluation of airports is one of the important issues to the government sectors. However, the competitiveness with the forthcoming operation of high speed rail, the performance of direct air links, and the possibility to develop Taiwan as a Global Logistic Center are all closely related with airport performance. Based on these reasons, it is an important subject to evaluate the current performance of airports so that the result of the evaluation can be used as a basis for airport improvement.

The main purpose of this study is to evaluate the performance of major airports in Taiwan in operational aspect as well as financial aspect. First, there are three major components of airport : terminals, passengers, and airlines, and the interrelationship among these components construct the conceptual framework of airport performance evaluation. In operational aspect, the airport performance are evaluated in four categories : Employee productivity, Service level in fire-fighting, Service level to passenger and Service level to airlines. In financial aspect, the airport performance are evaluated in five categories : Liquidation, Profitability, Return of investment, Assets turnover and Debts turnover. Second, while restricted by the difficulties of the information collection, in order to overcome the problems of small sample size, the shortness of information time and unknown distribution of samples, the Grey relation analysis is adopted to select the representative indicators and find out the most representative one to simplify the evaluation. Finally, TOPSIS (Technique for Order Preference by Similarity to Ideal Solution) method is used for the performance outranking (in operational aspect and financial aspect) of main airports in Taiwan.

In the case study, applying the presented evaluation procedure, in operational aspect this study evaluates the performance of all classes

(Class A, Class B and Class C) of airports in Taiwan. In the meantime, in financial aspect this study evaluates the performance of airports Class A and Class B. According to this study, the result of the airport performance evaluation shows that the best performance airports in operational aspect are CKS, Makung and Taichung for airports Class A, Class B and Class C respectively. And the best performance airports in financial aspect are CKS and Hualian for airports Class A and Class B respectively.

Key Words : Airport ; Performance evaluation ; Performance evaluation indicators ; Grey relation analysis ; TOPSIS