

Show or no show: modelling for the inventory management of an airline industry in Malaysia

ABSTRACT

This paper studies on the inventory management of an airline industry in Malaysia. The industry is aware that no shows are inevitable when handling the passengers on the departure day. Therefore, the overbooking process has been introduced to cope with the issue and aimed to improve the flight optimization. The main objective for this study is to propose a logit model, a model typically used in Credit Scoring, by applying the logistic regression model approach to predict the passengers' show-up probability on the departure day. Using the results from the logistic regression, in line with credit scoring analysis, then generate a scorecard as a decision support tool for the inventory analysts in strategizing the inventory of seats of flights and managing the overbooking decision more efficiently. Reviewing the limited literature reviews specifically on the topic, using Credit Scoring techniques to produce the scorecard for predicting a passenger's show-up rate is a new novel approach to the overbooking problem of the airline industry. This paper is to propose the credit scoring method to help with decision making in the overbooking problem.

Keyword: Logistic regression; Credit scoring; Scorecard; Show-up rate; No-show; Overbooking; Airline industry