**Article Title**
Efficiency performance of the Algarve hotels using a revenue function

**Citation**

**Abstract**
The tourism industry, particularly the hotel sector, is becoming increasingly competitive and dynamic as a result of the pressures of globalized supply and demand in a context of uncertainty. The aim of this study is to discuss the efficiency of hotel companies in the Algarve (Portugal), a tourist destination of excellence in southwest Europe. In particular, we intend to assess the efficiency of the hotels in terms of star rating (four and five-star hotels), their location (Windward and Leeward), owning or not golf courses and owning just a single hotel or more than one. This analysis will be based on the parametric method of stochastic frontier approach using a revenue function.

**Methods**
The best known and widely used econometric methodology for estimating efficiency are the stochastic frontiers. SFA, which is an econometric regression, was used to predict the behavior of a dependent variable from one or more independent variables, reporting on the margins of error of these forecasts.

**Results**
We found relevant levels of inefficiency. The results also point out the important role of the operational environment, particularly the hotel location and the existence of golf facilities. Star rating and owning multiples hotels do not seem to be so relevant.

**Conclusion**
This paper measures the revenue efficiency performance of hotel companies in the Algarve disaggregated into a set of criteria, including typology of hotels, location in the area of the Algarve, ownership of golf course as well as being owning one or more hotels. By applying SFA parametric method using a SFA revenue function with a translog specification interesting results were found. Extensive inefficiency was obtained in the Algarve hotels and most of the exogenous factors adopted were considered relevant. Best
practices might be identified with this study as well as managerial considerations. Several models were tested but only exponential and gamma models were significant.