



### Article Title

Determinants of revenue per available room: Influential roles of average daily rate, demand, seasonality and yearly trend

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### Abstract

Determining price per room to be charged to customers is an important decision to be taken by hotel management. Hotels frequently change their room rates based on the demand of room, occupancy rate, seasonal pattern, and strategies undertaken by other hotels on pricing. We formulated four models to analyse how various influencing variables, such as hotel price, demand, yearly trend and monthly seasonality influence hotel revenue per available room (RevPar).

### Methods

Monthly accommodation statistics for Sweden taken for Swedish Agency for Economic and Regional Growth and Statistics from January 2008 to July 2017 was used. The study carried out data analysis using both multiple regression and Multivariate Adaptive Regression Splines (MARS) model.

### Results

It was found that application of MARS can help establishing a nonlinear relationship of RevPar with other determining variables in a superior way. It was also proposed the possibility of developing a better forecasting model using MARS.

### Conclusion

This study demonstrates that the analysis of the MARS model delivers a substitute to the linear multiple regression model. The choice of the MARS model offers some advantages, as there is no requirement on assumptions for the underlying association between the predictor and the predictand variables. In contrast, the multiple-regression model assumes the existence of linear relationships between the variables, and the residuals of the model are independent and follow a normal distribution.