

## Neural Networks Models for Measuring Hotel Users Satisfaction

**Authors :** Asma Ameer, Dhafer Malouche

**Abstract :** Nowadays, user comments on the Internet have an important impact on hotel bookings. This confirms that the e-reputation issue can influence the likelihood of customer loyalty to a hotel. In this way, e-reputation has become a real differentiator between hotels. For this reason, we have a unique opportunity in the opinion mining field to analyze the comments. In fact, this field provides the possibility of extracting information related to the polarity of user reviews. This sentimental study (Opinion Mining) represents a new line of research for analyzing the unstructured textual data. Knowing the score of e-reputation helps the hotelier to better manage his marketing strategy. The score we then obtain is translated into the image of hotels to differentiate between them. Therefore, this present research highlights the importance of hotel satisfaction 'scoring. To calculate the satisfaction score, the sentimental analysis can be manipulated by several techniques of machine learning. In fact, this study treats the extracted textual data by using the Artificial Neural Networks Approach (ANNs). In this context, we adopt the aforementioned technique to extract information from the comments available in the 'Trip Advisor' website. This actual paper details the description and the modeling of the ANNs approach for the scoring of online hotel reviews. In summary, the validation of this used method provides a significant model for hotel sentiment analysis. So, it provides the possibility to determine precisely the polarity of the hotel users reviews. The empirical results show that the ANNs are an accurate approach for sentiment analysis. The obtained results show also that this proposed approach serves to the dimensionality reduction for textual data' clustering. Thus, this study provides researchers with a useful exploration of this technique. Finally, we outline guidelines for future research in the hotel e-reputation field as comparing the ANNs with other technique.

**Keywords :** clustering, consumer behavior, data mining, e-reputation, machine learning, neural network, online hotel 'reviews, opinion mining, scoring

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