

عنوان مقاله:

Hotel Location Problem Using Erlang Queuing Model under Uncertainty

محل انتشار:

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خلاصه مقاله:

Selecting an appropriate location to construct a hotel is one of the most challenging concerns which hotel industry investors are facing with. In this study, we attempt to find a suitable response to this research/application need by a mathematical model using the queuing theory and fuzzy logic. Therefore, the hotel, the reception system and travelers accommodations are formulated by appropriate queuing models. Considering the fact that the arrival rate for hotel and the amount of time spent in hotel is not certain, thus a profit function is defined using fuzzy logic and fuzzy queuing models. Using the values of this function, candidate locations for constructing a hotel are compared, and the one with maximum profit for the investors is selected. Due to using fuzzy parameters in the profit function, the amounts of profit obtained for different locations are in the form of fuzzy numbers; thus, we use fuzzy ranking techniques to prioritize the candidate locations for constructing the hotel. A number of numerical examples are proposed to elaborate the application of proposed methodology. Finally, sensitivity analysis has been applied on model parameters. Our results indicate that unlike previous studies where hotel locations have only qualitative parameters, the proposed model is able to compare the candidate sites in terms of quantitative and financial aspects.

کلمات کلیدی:

Hotel Location Queuing Theory Fuzzy Queuing Models Hotel Profit Function Fuzzy Ranking Technique

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