Dynamic Pricing of Movie Tickets Based on Consumer Choice Behavior

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In the past, many researches on the pricing of movie tickets have only given some subjective suggestions and there's no mathematical expression, however, starting from the consumer choice behavior of the tickets selling online, this paper studied the joint dynamic pricing of three types of movie tickets by time reverse dynamic programming. In the model, consumers make ticket purchasing choices by taking into account the broadcasting time and the price. Consumers are divided into two categories, which are those who are highly sensitive to time and highly sensitive to price, while the tickets are divided into three categories, i.e. tickets on weekdays daytime, on weekdays evening and on weekends. The price of each type of movie tickets is adjusted daily to maximize the profit. In this paper, the dynamic pricing of movie tickets solution is expressed in a specific formula, and based on some proofed properties, the space complexity and the calculation time are greatly reduced. The result of numerical experiment showed the scientific nature of the model, and the expected revenue using this model is higher than which using the traditional model.

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