

## Best Responses for the Dynamic Model of Hotel Room Rate

**Authors :** Xuan Tran

**Abstract :** The purpose of this paper is to present a comprehensive dynamic model for pricing strategies in the hotel competition to find a win-win situation for the competitive set. By utilizing the Cobb-Douglas utility model, the study establishes room rates by analyzing the price elasticity of demand across a competitive set of four hotels, with a focus on occupancy rates. To further enhance the analysis, game theory is applied to identify the best response for each competitive party, which illustrates the optimal pricing strategy for each hotel in the competitive landscape. This approach offers valuable insights into how hotels can strategically adjust their room rates in response to market conditions and competitor actions. The primary contributions of this research include as follows: (1) advantages for both individual hotels and the broader competitive hotel market, (2) benefits for hotel management overseeing multiple brands, and (3) positive impacts on the local community.

**Keywords :** dynamic model, game theory, best response, Cobb-Douglas

**Conference Title :** ICBETM 2025 : International Conference on Business, Economics and Tourism Management

**Conference Location :** Stockholm, Sweden

**Conference Dates :** July 15-16, 2025