

Dynamic Competitive Analysis for Tourist Volume of Offshore Islands in
Taiwan

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Abstract

The existing documentary and research emphasize on the tourism resource, tourist behavior, or continuity of natural resource of individual Taiwanese off-shore island. A dynamic macroscopic model is proposed to forecast tourist volume for three southern off-shore islands in Taiwan. The model, which consists of three differential equations, is based on grey Lotka-Volterra model. In addition, five social-economic factors are considered to describe the external effects on tourism. According to the results, model with gross domestic product (GDP) presents the best explanation and forecasting. The results are assessed by mean absolute percentage error (MAPE) and show good accuracy.

Keyword : offshore islands tourism, dynamic competitive, social-economic variables.