

Business Model for Improving Local Tourism Sustainability

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Abstract. This research aimed to study the problems relating to planning and scheduling services in the field of tourism attractions. Since handling these problems requires the consideration of a variety of factors and tourism business stakeholders, it is difficult to manage resources effectively. The mathematical model proposed in this study aims to maximize the total revenue of service operations in the tourism business within service hours by considering the time windows of tourists and points of interest, sequence-dependent travel time, and destination restrictions. Moreover, sensitivity analysis was applied to analyze the worth of investment when the opportunity cost factor changes. The proposed model was verified using a real case study in Khon Kaen province, Thailand. The results indicate that the proposed model can be utilized for strategic planning and investment in this area. Using the outputs of the mathematical model, one of the key applications of this research is to give advice for developing the suggested supply chain network.

Keywords: Tourism supply chain, Sustainable management, Multiple providers, Planning and scheduling, Mathematical programming