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A Neutrosophic Fuzzy Goal Programming Approach for Multi-Objective Customized Travel Package Problem

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ABSTRACT

The goal of the tourism supply chain is to satisfy the wide range of visitor preferences. However, tourists can have quite different tastes; some would favor optimizing one factor, while others would try to find a balance between multiple conflicting requirements. It is challenging for tourism service providers to precisely customize schedules to each individual's interests. So, this study presents a framework for multi-objective optimization that enables travelers to design schedules that suit their preferences. To address uncertainties within the proposed problems, parameters are represented using single-valued neutrosophic fuzzy numbers (SVNFNs). The study employs the single-valued neutrosophic fuzzy goal programming (SVNFGP) approach to solve this model. This method facilitates tourists in comparing various activity combinations, enabling them to choose the one that best matches their preferences. A small-scale real-world case study is used to test the model. A detailed comparison between the recommended algorithm and other widely used techniques strengthens the study. The study is strengthened by a fair comparison of the suggested algorithm with other currently used methods, and it is discovered that the suggested method is reasonable in contrast to others.

Keywords- Tourism system, Single valued neutrosophic sets, Neutrosophic fuzzy goal programming problem

How to Cite

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