عنوان مقاله:

A Clustering Based Location-allocation Problem Considering Transportation Costs and Statistical Properties

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خلاصه مقاله:

Cluster analysis is a useful technique in multivariate statistical analysis. Different types of hierarchical cluster analysis and K-means have been used for data analysis in previous studies. However, the Kmeansalgorithm can be improved using some metaheuristics algorithms. In this study, we proposesimulated annealing based algorithm for K-means in the clustering analysis which we refer it as SA Kmeans. In this algorithm, an evaluation criterion is used in the clustering stage to have accurate clusters. Then, another cost based criterion has been introduced to have efficient and accurate clusters.The proposed approach has been presented for solving the location allocation problem. To show the effectiveness of the proposed approach, some numerical examples of location allocation problems have been tested by the proposed approach. Comparing the results of the proposed approach with exactsolution and another developed GA algorithm for numerical examples of the location allocation problem show that the performance of the proposed SA K-means approach is satisfactory.

کلمات کلیدی:

Multivariate Clustering Analysis,Location Allocation Problem,Simulated Annealing Algorithm,SA K-means

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