

Multi-Criteria Decision Approach to Performance Measurement Techniques Data Envelopment Analysis: Case Study of Kerman City's Parks

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Abstract : During the last several decades, scientists have consistently applied Multiple Criteria Decision-Making methods in making decisions about multi-faceted, complicated subjects. While making such decisions and in order to achieve more accurate evaluations, they have regularly used a variety of criteria instead of applying just one Optimum Evaluation Criterion. The method presented here utilizes both 'quantity' and 'quality' to assess the function of the Multiple-Criteria method. Applying Data envelopment analysis (DEA), weighted aggregated sum product assessment (WASPAS), Weighted Sum Approach (WSA), Analytic Network Process (ANP), and Charnes, Cooper, Rhodes (CCR) methods, we have analyzed thirteen parks in Kerman city. It further indicates that the functions of WASPAS and WSA are compatible with each other, but also that their deviation from DEA is extensive. Finally, the results for the CCR technique do not match the results of the DEA technique. Our study indicates that the ANP method, with the average rate of 1/51, ranks closest to the DEA method, which has an average rate of 1/49.

Keywords : multiple criteria decision making, Data envelopment analysis (DEA), Charnes Cooper Rhodes (CCR), Weighted Sum Approach (WSA)

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