Data Envelopment Analysis in Fuzzy Environment

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Abstract

The main purpose of this paper is to employ fuzzy sets theory in DEA (Data Envelopment Analysis) approach so that it is capable to handle fuzzy input data. And, further, the paper employs and efficient, accurate, and simple fuzzy ranking method developed by Chen and Klein in 1997, which is based on area measurement and fuzzy subtraction. The method is suitable to be used in ranking a large quantity of fuzzy numbers, so that it aids decision maker to determine the ranking order of efficiency ratio resulting from the DEA evaluation in fuzzy environment. Finally, a numerical example is solved to exhibit the usefulness of the proposed approach in evaluation performance of the departments of a university.