

模糊DEA 排序模式之構建-以銀行分行為評估對象

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摘要

The DEA model has been widely applied in performance evaluation using well-defined input and output data to evaluate the efficiency of decision-making units (DMUs) in various fields. In practical applications, the input and output data may not always be crisp values and the research has been based on fuzzy theories to develop numerous fuzzy DEA models to deal with non-crisp input-output data. The value obtained using the fuzzy DEA model as reported in literatures is expressed in efficiency that is limited to not exceeding one. This also limits the fuzzy efficiency intervals of DMUs, and the result is hence not capable of expressing the fuzzy efficiency intervals of DMUs precisely. A new Fuzzy DEA Ranking Model is developed in this paper for exactly ranking the efficient DMUs with fuzzy input-output data. This model allows the efficiency values greater than one thus the result precisely shows the fuzzy efficiency intervals for all DMUs, and to rank the efficient DMUs accurately and effectively. Finally, we evaluate the performance of bank branches to examine the practicability and effectiveness of the Fuzzy DEA Ranking Model. The results indicate that this model not only accurately identifies DMU's efficiency intervals but also ranks the efficiency DMUs perfectly.

關鍵字：Fuzzy DEA Model; Ranking; Efficiency; Performance Evaluation