عنوان مقاله:

A Bi-level Formulation for Centralized Resource Allocation DEA Models

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نویسندگان:

.Mohammad Moghaddas - *Department of Mathematics, Central Tehran Branch, Islamic Azad University, Tehran, Iran*

.Ghasem Tohidi - *Department of Mathematics, Central Tehran Branch, Islamic Azad University, Tehran, Iran*

خلاصه مقاله:

In this paper, the common centralized DEA models are extended to the bi-level centralized resource allocation (CRA) models based on revenue efficiency. Based on the Karush–Kuhn–Tucker (KKT) conditions, the bi-level CRA model is reduced to a one-level mathematical program subject to complementarity constraints (MPCC). A recurrent neural network is developed for solving this one-level mathematical programming problem. Under a proper assumption and utilizing a suitable Lyapunov function, it is shown that the proposed neural network is Lyapunov stable and convergent to an exact optimal solution of the original problem. Finally, an illustrative example is elaborated to substantiate the .applicability and effectiveness of the proposed approach

کلمات کلیدی:

Data envelopment analysis, Centralized resource allocation, Neural network, Stability