**Innovative Approaches to Centralized Resource Allocation with Customized Returns to Scale**

**Highlights**

* Developing centralized resource allocation production technology involves categorizing indicators and applying distinct coefficients of variation to each group of indicators.
* Applying the principle of pseudo-returns to scale in the centralized data envelopment analysis (DEA) model.
* Examining the allocated resources and their savings based on the newly developed principles corresponding to each index and comparing them with the results of the centralized resource allocation model by Lozano and Villa (2004).
* Analyzing the strengths of the proposed centralized data envelopment analysis model in comparison to the Lozano and Villa (2004) centralized data envelopment analysis model.