Professor Khadijeh Jahedi

Editor-in-Chief

Journal of Mathematical Extension

December, 1, 2024

Dear Pr. Khadijeh Jahedi

Please find enclosed our manuscript entitled " **Innovative Approaches to Centralized Resource Allocation with Customized Returns to Scale** " which we would like to submit for publication as a Research Report in Journal of Mathematical Extension.

In this article, the development of the Returns to Scale principle has been employed to develop the technology of Centralized Resource Allocation. Considering the environmental conditions of systems, a new approach has been opened for centralized resource allocation in the world of data envelopment analysis. The aim of this idea is to maintain or improve the total of productions with optimal resource utilization or greater savings in the sum resources compared to previous studies. One of the key strengths of the paper lies in the flexibility of the development coefficient of the indicators. In this research, the change coefficient for the sum of certain indicators is regarded as a multiple of the development coefficient for the sum of other indicators. Considering that the innovation of the paper involves designing novel technologies along with modeling, and it also addresses the analysis of these technologies from optimization and mathematical programming perspectives that aligns with the objectives of this journal. Also, the detailed description of the innovation is also fully provided in the article. we have decided to submit the paper to this journal. We believe these findings will be of great interest particularly to researchers working on DEA and Specially on principle of returns to scale. Journal of Mathematical Extension represents the perfect platform for us to share these results with the international research community.

We confirm that this manuscript has not been published elsewhere and is not under consideration by another journal. All authors have approved the manuscript and agree with submission Journal of Mathematical Extension.

No funding was received for conducting this study and the authors have no competing interests to declare that are relevant to the content for this article.

Please address all correspondence to:

First Affiliation: Science and Research Branch, Islamic Azad University, Daneshgah Blvd, Simon Bulivar Blvd, Tehran, Iran.

E-mail: [Farhad@hosseinzadeh.ir](mailto:Farhad@hosseinzadeh.ir)

Phone Number: 009802144865179-82 & 009802144865154-8

Postal Code: 1477893855 Post Office Box: 14515/775

Second Affiliation: Research Center of Performance and Productivity Analysis, Istinye University, Istanbul, Turkiey.

We shall look for hearing from you at your earliest convenience.

Your Sincerely,

Pr. F. Hosseinzadeh-Lotfi