

### Review Form 3

Journal Name:	<a href="#">Journal of Engineering Research and Reports</a>
Manuscript Number:	Ms_JERR_127583
Title of the Manuscript:	Optimization of Kmeans, Kmedoids, and Kshape Using Intelligent Optimization Algorithms
Type of the Article	Research

#### PART 1: Comments

	Reviewer's comment	Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
<b>Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.</b>	This manuscript addresses acute challenges in clustering methods, particularly K-means, K-medoids, and K-shape, by integrating intelligent optimization algorithms such as Sparrow Search Algorithm (SSA), Dung Beetle Optimizer (DBO), and Sine Cosine Algorithm (SCA). The combination of dimensionality reduction techniques, like PCA and NNMF, enriches its applied utility, especially for high-dimensional datasets. The proposed framework expressively improves clustering stability and accuracy, which is crucial for applications in diverse fields such as e-commerce, consumer behaviour analysis, and industrial systems optimization. This contribution is valuable for advancing unsupervised learning techniques and providing robust solutions to real-world data clustering problems.	
<b>Is the title of the article suitable? (If not please suggest an alternative title)</b>	Yes, It reflects the content. However, a new descriptive alternative could be: "Enhancing Clustering Stability and Efficiency: A Framework for Optimizing K-means, K-medoids, and K-shape with Intelligent Algorithms."	
<b>Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.</b>	The abstract is comprehensive but could be improved by briefly mentioning the key findings (e.g., best-performing algorithm and achieved metrics). Suggested revision: "Experimental results on benchmark datasets demonstrate that the Dung Beetle Optimizer combined with NNMF achieved the highest silhouette score of 0.68, showcasing the framework's effectiveness in improving clustering stability and quality."	
<b>Is the manuscript scientifically, correct? Please write here.</b>	The manuscript is scientifically correct, with thorough mathematical formulations, implementation details, and well-supported claims. The clustering algorithms and optimization methods are adequately described, and the results are aligned with the stated objectives.	
<b>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.</b>	Need to refer latest more papers. The references are generally covering foundational aspects of clustering and optimization algorithms. However, adding a few recent works on hybrid clustering frameworks or optimization in high-dimensional spaces could further strengthen the literature review.	
<b>Is the language/English quality of the article suitable for scholarly communications?</b>	The language is suitable for scholarly communication, with only minor grammatical and stylistic improvements needed to enhance clarity. For example, consistent use of tense and avoidance of long sentences can make the manuscript more reader-friendly.	
<b>Optional/General</b> comments		

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**PART 2:**

	<b>Reviewer's comment</b>	<b>Author's comment</b> <i>(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
<b>Are there ethical issues in this manuscript?</b>	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

**Reviewer Details:**

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