

Review Form 3

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| Journal Name: | Journal of Engineering Research and Reports |
| Manuscript Number: | Ms_JERR_120282 |
| Title of the Manuscript: | Forecasting Oil Production and Consumption Using the Time-delayed Fractional Discrete Grey Model with Multiple Fractional Order |
| Type of the Article | Original Research Article |

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PART 1: Review Comments

| Compulsory REVISION comments | Reviewer's comment | Author's Feedback (Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here) |
|--|---|---|
| Please write few sentences regarding the importance this manuscript for scientific community. Why do you like (or dislike) this manuscript? Minimum 3-4 sentences may be required for this part. | The topic of the research paper is of great and increasing importance within the interests of modern scientific research. The study employs the existing time-delayed fractional discrete grey model with multiple fractional order and combines it with the Particle Swarm Optimization algorithm to optimize the fractional order. An in-depth analysis of oil production and consumption data in the Asia-Pacific region, the Commonwealth of Independent States (CIS), and the Middle East shows that the model demonstrates significant advantages in fitting and forecasting capabilities. | |
| Is the title of the article suitable? (If not please suggest an alternative title) | The title of the article is suitable. | |
| Is the abstract of the article comprehensive? Do you suggest addition (or deletion) of some points in this section? Please write your suggestions here. | The abstract was presented in a good and understandable scientific manner, as it explained the results, but the research goal was not clearly and accurately stated, as well as the recommendations. | |
| Are subsections and structure of the manuscript appropriate? | The subsections and the structure of the manuscript have been well and appropriately drafted, However, The Research Methodology did not contain a complete methodology, as the research objective and problem were not addressed. | |
| Please write few sentences regarding the scientific correctness of this manuscript. Why do think that this manuscript is scientifically robust and technically sound? Minimum 3-4 sentences may be required for this part. | I think that this manuscript is scientifically robust and technically sound, because its structure consists of an Abstract, Introduction, Research Methodology, Discussion, Conclusions, and References plus figures and tables. Also, The researcher gathered annual data on oil production and consumption for the Asia Pacific, CIS (Commonwealth of Independent States) and the Middle East, spanning the years 2000 to 2022. The dataset from 2000 to 2015 has been utilized to build the forecasting model, and the data from 2016 to 2022 has been reserved for out-of-sample testing to evaluate the model's generalization capability effectively. This approach allows for a more comprehensive assessment of the model's ability to predict future trends. | |
| Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form. | The references are sufficient, but some of them are not current, and I suggest taking the following sources https://www.atlantis-press.com/proceedings/icemt-20/125940075 , https://doi.org/10.1051/e3sconf/202129108010 https://doi.org/10.24891/ea.19.8.1551 | |
| Minor REVISION comments Is language/English quality of the article suitable for scholarly communications? | The language English quality of the article is suitable for scholarly communications | |
| Optional/General comments | Finally, all of the above-mentioned observations do not diminish the importance of the research or the effort exerted by the researcher, but rather they were received in support of it and seek to raise the scientific level of research, and therefore we recommend accepting the manuscript. | |

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PART 2:

| | Reviewer's comment | Author's comment <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> |
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| Are there ethical issues in this manuscript? | <i>(If yes, Kindly please write down the ethical issues here in details)</i> | |

Reviewer Details:

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| Department, University & Country | University of Kufa, Iraq |