Review Form 3

Journal Name:	**Asian Research Journal of Mathematics**
Manuscript Number:	**Ms_ARJOM_120657**
Title of the Manuscript:	**A Production Inventory Model for Fractionally Time-Dependent Demand Rate with Weibull Deterioration and Partially Backlogged Items**
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.	In this paper, the authors developed a new mathematical model for inventory management of deteriorating items. They consider several realistic assumptions such as Fractionally Time-Dependent Demand Rate and partial backordering shortage to improve the applicability of the framework. In general, I think that the studied problem is interesting as several realistic assumptions are addressed in the inventory planning problem.	
Is the title of the article suitable? **(If not please suggest an alternative title)**	Yes.	
Is the abstract of the article comprehensive? Do you suggest addition (or deletion) of some points in this section? Please write your suggestions here.	Yes	
Are subsections and structure of the manuscript appropriate?	I suggest the following structure: • Introduction • Problem presentation and mathematical modelling • Numerical results Conclusion	
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.	The authors develop a new inventory model based on the classical inventory models in the literature. Well-known equations from the literature are used in the mathematical formulation. Also, they provide extensive analysis of results to provide insights on the performance of model.	
Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form. -	No. Some recently published papers in the field have been missed in this paper. I suggest the authors include the following papers in the literature review: • A constrained multi-item EOQ inventory model for reusable items: Reinforcement learning-based differential evolution and particle swarm optimization • Economic order quantity for substitutable growing items • A sustainable supply chain under VMI-CS agreement with withdrawal policies for imperfect items • An economic production quantity inventory model for multi-product imperfect production system with setup time/cost function • A sustainable production-inventory model joint with preventive maintenance and multiple shipments for imperfect quality items Optimization of price, lot size and backordered level in an EPQ inventory model with rework process	

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Minor REVISION comments **Is language/English quality of the article suitable for scholarly communications?**	No. The English of paper should be checked by authors. For example, you used the lack cost phrase, that should be shortage cost. There are similar problems in other part of manuscript.	
Optional/General comments	Introduction: • Tables captions should be above tables, and figures captions should be below figures. Please check that in other parts. • The contribution of the research needs to be more clarified. • Do not list the sections of manuscript in the introduction. Write in a continuous paragraph. Problem definition and modelling: • You claim that the model determines optimal order quantity and reorder point. In your assumptions, the lead-time is assumed to be zero. So, there is no decision on reorder point. Please clarify this for me. • You should provide a problem description before the presentation of notations and assumptions. • Model 1 and Model 2 needs to be defined. Computational results: • You claimed that MATLAB software is employed to obtain the optimal decision variables values. Please provide more details on that. There is a single decision variable in this study, which is Q. Why you reported T? I am also wondered why in some sensitivity analysis cases, Q remains fixed but T is changed.	

PART 2:

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

Reviewer Details:

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