

Review Form 3

Journal Name:	Asian Journal of Probability and Statistics
Manuscript Number:	Ms_AJPAS_128079
Title of the Manuscript:	A ONE-SIDED CUMULATIVE SUM CONTROL CHART FOR MONITORING SHIFT IN THE PARAMETERS OF THE WEIGHTED WEIBULL DISTRIBUTION USING V-MASK APPROACH
Type of the Article	

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>
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.	This manuscript makes a substantial contribution to the scientific community by examining the sensitivity and effectiveness of control charts in monitoring process shifts, specifically using the Weighted Weibull Distribution. By integrating the CUSUM chart with the V-mask technique, it presents a strong methodology for identifying even slight deviations in system parameters, which is essential for ensuring quality and reliability in industrial, healthcare, and various operational environments. The thorough investigation of parameter shifts and their consequences deepens the theoretical understanding of control chart performance. Additionally, the practical examples using both real and simulated data offer valuable insights, connecting statistical theory with practical application.	
Is the title of the article suitable? (If not please suggest an alternative title)	The title seems to be very large it could be rewritten as "One-Sided CUSUM Chart with V-Mask for Weighted Weibull Distribution Parameter Shifts"	
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.	There are a few areas that could be improved or clarified: 1. The V-mask technique and sequential ratio test is important, but the explanation in the abstract is somewhat brief. It might be helpful to briefly describe how these techniques contribute to the effectiveness of the CUSUM chart in detecting shifts. 2. The abstract could briefly mention key findings or results.	
Is the manuscript scientifically, correct? Please write here.	The manuscript appears to be scientifically correct in its approach to developing a one-sided CUSUM control chart for monitoring shifts in the parameters of the Weighted Weibull Distribution. The use of the V-mask technique and sequential ratio test is appropriate for enhancing the sensitivity of the CUSUM chart, and the mathematical derivations are logically sound, including the handling of shifts in parameters and the calculation of average run length (ARL).	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.	Some more research paper like https://www.mdpi.com/2227-7390/11/19/4157 could be cited.	

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<p>Is the language/English quality of the article suitable for scholarly communications?</p>	<p>The language and English quality of the manuscript are generally suitable for scholarly communication, but there are areas where improvement is needed. The technical terminology used in the manuscript is accurate and appropriate for the subject matter, and the formal tone is maintained throughout. There is a need for consistency in the use of terms and expressions to avoid confusion, particularly when referencing technical concepts like "lead distance" or "maximum allowable deviation."</p>	
<p>Optional/General comments</p>	<ol style="list-style-type: none"> 1. The expression of alternative hypothesis is incorrect in section 2. 2. The expression of S_p is incorrect as there is no i to vary in section 4. 3. The presence of negative values of the distance in many tables is concerning and may require further clarification. Typically, lead distance in CUSUM charts represents the maximum allowable deviation from the center line, and negative values do not align with the conventional interpretation of this metric. 4. The manuscript includes many tables and figures, but their integration into the narrative is weak. 5. The discussions on the effects of shifts in parameters (gamma, lambda, alpha, etc.) are thorough, but the tables may be overwhelming to some readers. Consider summarizing the findings more concisely in a few key takeaways for each parameter shift. 6. it would be helpful to explain the implications of these shifts in practical terms. How do these shifts affect real-world process monitoring and what decisions can be made based on them? 7. the figures (Figures 2, 3, and 4) should be labeled more clearly, and there should be a discussion on how to interpret the control limits in these specific cases. 8. It would be more impactful if you highlighted what the "out-of-control" points imply in the context of patient health monitoring. 	

PART 2:

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

Reviewer Details:

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