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| Journal Name:  | [**Asian Journal of Probability and Statistics**](https://journalajpas.com/index.php/AJPAS)  |
| Manuscript Number:  | **Ms\_AJPAS\_131500**  |
| Title of the Manuscript:  | **EXPONENTIAL-GAMMA- RAYLEIGH DISTRIBUTION THEORY**  |
| Type of the Article  |  |

**PART 1: Comments**

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|  | **Reviewer’s comment**

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| **Artificial Intelligence (AI) generated or assisted review comments are strictly prohibited during peer**  |
| **review.** |  |

  | **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 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 study introduces the exponential-gamma Rayleigh distribution as a new lifetime model. This distribution is produced by incorporate the Rayleigh distribution within the exponential-gamma-X family. Expressions for the probability density function cumulative distribution function, moments, and moment generating function, characteristics function of the provided distribution are derived. Various statistical properties, including the coefficient of variation. This work discussed on the estimation of the proposed model using the technique of maximum likelihood estimation.**  |   |
| **Is the title of the article suitable?** **(If not please suggest an alternative title)**  | **Not suitable: the suggested title is** **“ Exponential-Gamma- Rayleigh Distribution: Properties and Estimation”**  |   |
| **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.**  | **No. 1.**  | **The abstract must state the purpose of the study, methodology to obtain the new distribution.**  |   |
|  | **2.**  | **Outlines the principal findings, highlights the significance of the results.**  |  |
|  | **3. It must include a brief summary of the key outcomes or the impact of the findings.** **Some correction must be made:** **The abbreviations EG, and EGRD do not define .** **This sentence “This is achieved by modifying the newly generated continuous Exponential-Gamma-X family of distributions”, this sentence does not true the modification does not for the family, the modification for the Rayleigh distribution.**  |  |
| **Is the manuscript scientifically, correct? Please write here.**  | **No:** 1. **The authors must explain, how the new distribution is obtained.**
2. **There is any literature review about previous studies.**
3. **Introduction section must be concluded with clearly stated problem statement, methodology and objectives of the current work.**
4. **Providing a clearer explanation of the motivation behind the research and why the new model offers a superior modelling framework compared to existing distributions of Rayleigh distribution.**
5. **The authors must write about the generated families. The importance of ExponentialGamma-X family must be added along with their probability density function and cumulative distribution function.**
6. **presentation of the probability density function in Equation (4) is unclear**
7. **There is any connections between all parts. There is any description of the**

**organization of the article** 1. **Simulation study and real data applications must be added.**

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| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.**  | **This article contains only two references, I am strange of this paper about the number of the references.?** **In the literature there are a lot of the generated families exist, the authors must return to the recent studies and write some of them.** **The authors must add the references of the extended forms of the Rayleigh distribution** **Comparison between the suggested model and other extended distribution to the Rayleigh distribution must be made**  |   |
| **Is the language/English quality of the article suitable for scholarly communications?**   | **No**  |   |
| **Optional/General** comments   |  |   |

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| **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)* |  |

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| **Reviewer Details:** |
| Name: | **Amal Soliman Hassan** |
| Department, University & Country | **Cairo University, Egypt** |