



**SDI Review Form 1.6**

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| Journal Name:            | <a href="#">British Journal of Mathematics &amp; Computer Science</a>                                             |
| Manuscript Number:       | Ms_BJMCS_21903                                                                                                    |
| Title of the Manuscript: | <b>The Complementary Exponentiated Inverted Weibull Power Series Family of Distributions and its Applications</b> |
| Type of the Article      | <b>Original Research Article</b>                                                                                  |

**General guideline for Peer Review process:**

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)



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**PART 1: Review Comments**

|                                     | 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)                                                                                                                            |
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| <b>Compulsory</b> REVISION comments | <p>The submitted manuscript introduces a new generalization of the EIW distribution with the help of some power series distributions. Although the authors use a simple application of eq. (4), taken from [6], and the EIW distribution, they provide an extensive analysis of the new family of distribution, while real data applications are performed. Several sub-classes of the new CEIWPS family are also obtained and discussed.</p> <p>Here are some major revision comments:</p> <p><b>Page 1:</b></p> <p><b>1. Beginning of 2<sup>nd</sup> paragraph:</b> Phrase: "...the distribution of a maximum...type.". Does the authors mean: "...the distributions with a maximum number of fixed independent, continuous and discrete type, lifetime distributed random variables."? Please revise this sentence to make it clear what you mean.</p> <p><b>Page 2:</b></p> <p><b>2. 4<sup>th</sup> paragraph:</b> When you let <math>Y = \max\{Y_i\}_{i=1}^Z</math>, do you mean that <math>Y_i</math> are independent identically distribution random variables having the exponentiated inverted Weibull distribution...? Please revise.</p> <p><b>3. Eq. (4):</b> Vector <math>\phi</math> is not appearing on the right-hand side of eq. (4). Please revise the equation, or remove <math>\phi</math> from the left-hand side of this equation. Also determine <math>G(y)</math>.</p> | <p><b>Thank you very much for reading carful and for important comments</b></p> <p><b>So, kindly before you publish my paper send me once again to make sure that there is nothing wrong with the spaces and the tables.</b></p> <p><b>Corrected</b></p> <p><b>Corrected</b></p> <p><b>Corrected</b></p> |



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|  | <p><b>Page 4:</b></p> <p>4. <b>3<sup>rd</sup> paragraph:</b> Please add some reference here, in which the <math>r</math>-th moment of <math>Y'</math> is proved to be <math>\theta^{\frac{r}{\beta}} \Gamma(1 - \frac{r}{\beta})</math> (is this reference [23]?). Moreover, explain shortly why the <math>r</math>-th moment of <math>Y'</math> implies that eq. (10) gives the <math>r</math>-th moment of <math>Y \sim CEIWPS</math>.</p> <p><b>Page 7-:</b></p> <p>5. All figures of the manuscript are of very poor quality (their legends are unreadable). Please, provide figures in 300 dpi, or as much resolution as you can in order the provided figures to be helpful to the reader.</p> <p>6. Are the depicted curves in Fig. 7 increasing, or their forms resample those in Fig. 5? Maybe if you expand the horizontal axis their behavior would become clearer.</p> <p><b>Page 13:</b></p> <p>7. For the sake of completeness, please add some paragraph before Table 2, to provide some words about the exact methodology that were used in order to compute the MLEs and the other results in Table 2. It would then clearer to the every reader how those numerical evaluations were produced (and hence checked).</p> | <p><b>Corrected</b></p> <p><b>Corrected</b></p> <p><b>Corrected</b></p> |
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| <p><b>Minor</b> REVISION comments</p> | <p><i>Note:</i> The text in red below represents the suggested changes/additions.</p> <p><b>General notes about the format of the expressions:</b></p> <p>(a) <b>Suggestion:</b> When you write in MS Word, the mathematical expressions is more appealing and robust when you use an equation editing packages like MathType than the Word's own limited equation editor.</p> <p>(b) Instead of the expression "<math>(e^{-y^{-\beta}})^{\theta}</math>" you may write "<math>e^{-\theta y^{-\beta}}</math>" or "<math>e^{-\theta/y^{\beta}}</math>". Try to simplify these kind of expressions in order to avoid multiple nested bracketing and multiple powers.</p> <p>(c) Please rewrite formula in eq. (4) as <math>F(y; \lambda, \phi) = \frac{A(\lambda e^{-\theta y^{-\beta}})}{A(\lambda)}</math> ... Generally, when you are writing a function, like <math>A(\cdot)</math>, try to use parentheses instead of square brackets, no matter what is inside the <math>(\cdot)</math>. Use this rule also for eq. (7), (8), etc.</p> <p>(d) Try to avoid notations like <math>\sum_{k=1}^n</math> and <math>\lim_{x \rightarrow 0}</math> when you are writing in an equation line (and not in an equation inside a paragraph), and use <math>\sum_{k=1}^n</math> and <math>\lim_{x \rightarrow 0}</math> instead.</p> <p>(e) When you are referring to the probability of some quantity please write "<math>\text{Pr}(\cdot)</math>" or "<math>\text{P}(\cdot)</math>" instead of "<math>P(\cdot)</math>".</p> <p>(f) Do not use the dot sign in order to declare multiplication, like <math>A(\lambda) \cdot u</math> in eq. (9). Please write <math>A(\lambda)u</math> or <math>uA(\lambda)</math>. If it is necessary use <math>A(\lambda) \times u</math>. The latter notation is often used for multiplication of long expressions when you have to break the equation into two lines, at the multiplication symbol <math>\times</math>.</p> <p>(g) Instead of "...rth moment..." please write "<math>r</math>-th moment".</p> <p>(h) In general, all the equations of the paper which are consisted by a main formula</p> | <p></p> <p><b>Corrected</b></p> <p><b>Corrected</b></p> <p><b>Corrected</b></p> <p><b>Corrected</b></p> <p><b>Corrected</b></p> <p><b>Corrected</b></p> <p><b>Corrected</b></p> <p><b>Corrected</b></p> <p><b>Corrected</b></p> |
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|  | <p>followed by some expressions, like "<math>y, \theta, \beta &gt; 0</math>", must be separated from the main eq. by some spacing, just like the authors did in eq. (15) or (16).</p> <p>Here are some minor comments:</p> <p><b>Abstract:</b></p> <p>8. Instead of "The statistical...context." please write "In statistical literature several distributions are used to model lifetime data. But many -if not most- of these distributions lack of certain lifetime context motivation."</p> <p>9. Instead of "...provide great flexibility in modeling data in practice." please write "offer great flexibility in real data modeling."</p> <p>10. Instead of "...performed by maximum likelihood..." please write "performed by the maximum likelihood..."</p> <p>11. Instead of "...special models of the new family..." please write "...special models belonging to the new family..."</p> <p><b>Page 1:</b></p> <p>12. <b>End of 1<sup>st</sup> paragraph:</b> Instead of "... identical distributed, random variable which represents the failure time of the system." please write "...identically distributed random variables which represent the failure time of a system."</p> <p>13. <b>Beginning of 2<sup>nd</sup> paragraph:</b> Instead of "...proposed a new compounding..." please write "...proposed new compounding..."</p> <p>14. <b>2<sup>nd</sup> paragraph:</b> Instead of "...rate introduced..." please write "...rate, introduced...". Instead of "...distribution was introduced by [3]" use "...distribution, was introduced in [3]". Instead of "...Weibull and geometric..." please write "Weibull together with geometric...". Instead of "...see ([4],[5],..." please write "...see [4],[5],..."</p> <p>15. Phrase "Furthermore, several authors...". Is this the beginning of a new paragraph? (begin a new paragraph or join the section "Furthermore, several authors...introduced by [21]" to the paragraph above).</p> | <p>Corrected</p> <p>Corrected</p> <p>Corrected</p> <p>Corrected</p> <p>Corrected</p> <p>Corrected</p> <p>Corrected</p> <p>Corrected</p> <p>Corrected</p> <p>Corrected</p> |
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|  | <p>16. Instead of "...mixing continuous distribution with power series distribution for both schemes..." please write "...mixing continuous distributions with power series distributions for both schemes..."</p> <p>17. Instead of "[15] defined the Weibull power series..." please write "In [15] the Weibull power series family of distributions, which includes the sub-models of the exponential power series distributions, were defined".</p> <p>18. Instead of "...was introduced by [16]" please write "was introduced in [16]". Whenever you write "...by [XX]" replace with "... in [XX]".</p> <p>19. Instead of "A new life time ... by [21]" please write "A new lifetime distribution with decreasing failure rate, called the inverse Weibull power series distribution, is introduced in [21]".</p> <p><b>Page 2:</b></p> <p>20. 1<sup>st</sup> paragraph: Instead of "...distribution to analyze life time data with some monotone failure rates" please write "...distributions to model lifetime data with some monotone failure rates". Instead of "...including reliability, and branching processes..." please write "including reliability and branching processes,".</p> <p>21. Eq. (1): Put a full stop (not comma) at the end for this equation.</p> <p>22. After eq. (1): Instead of "cumulative distribution (cdf) is" please write "cumulative distribution function (cdf) is given by".</p> <p>23. Eq. (2): Put a full stop at the end. Then, you can write: "For <math>\theta = 1 \dots</math>".</p> <p>24. 2<sup>nd</sup> paragraph: Instead of "...identically distribution random variables having..." please write "...identically distributed random variables following...". Instead of "...and Z is a discrete random variable has the following power series probability mass function..." please write "...while Z is a discrete random variable following the power series probability mass function...". If this is not what you mean, please revise. Instead of "...coefficient <math>a_z</math>'s depends only on z, while <math>A(\lambda) = \dots</math>" please write "...coefficient <math>a_z</math></p> | <p>Corrected</p> <p>Corrected</p> <p>Corrected</p> <p>Corrected</p> <p>Corrected</p> <p>Corrected</p> <p>Corrected</p> <p>Corrected</p> |
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|  | depends only on $z$ , while $A(\lambda) := \dots$ .                                                                                                                                                                                                                                                                                                                | Corrected |
|  | 25. Instead of “[6] introduced...variable” please write “In [6], a compound class of distributions was introduced. These distributions were obtained by mixing the maximum of a sequence of any identically independent lifetime distributed random variables together with a power series random variable”.                                                       | Corrected |
|  | 26. After eq. (4): Instead of “...is the cdf of EIW distribution” please write “...is the cdf of the EIW distribution”.                                                                                                                                                                                                                                            | Corrected |
|  | Page 3:                                                                                                                                                                                                                                                                                                                                                            | Corrected |
|  | 27. 1 <sup>st</sup> paragraph: Instead of “...with distribution function (5)...” please write “...distributed as in (5)”. The sentence “Furthermore,...” must be at the end of the above paragraph.                                                                                                                                                                | Corrected |
|  | 28. Below “(3.1) A useful expansion”: Instead of “proportions.” please write “Propositions.”.                                                                                                                                                                                                                                                                      | Corrected |
|  | 29. Below “by taking the limits for both sides”: Please write “ $\lim_{\lambda \rightarrow 0} F(y; \theta, \beta, \lambda) = \lim_{\lambda \rightarrow 0} \dots$ ”.                                                                                                                                                                                                |           |
|  | 30. Before the proof of Proposition 2: Please add the line “where $g(y)$ is the pdf of $Y \sim EIW(\theta z, \beta)$ ”.                                                                                                                                                                                                                                            |           |
|  | 31. Last paragraph: Instead of “Quantile functions are used in theoretical aspects, statistical applications and simulations. Simulations methods employ quantile function...” please write “Quantile functions are used in theoretical aspects of Probability Theory, statistical applications and simulations. Simulation methods utilize quantile function...”. | Corrected |
|  | Page 4:                                                                                                                                                                                                                                                                                                                                                            | Corrected |
|  | 32. Below eq. (9): Instead of “where $u$ is a uniform random variable...” please write “where $u$ is considered as a uniform random variable...”.                                                                                                                                                                                                                  | Corrected |
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|  | <p>Instead of “Since the <math>r</math>th moment...is given by” please write “Since, the <math>r</math>-th moment of random variable <math>Y</math> which follows an EIW distribution with parameters <math>\theta</math> and <math>\beta</math>, is given by <math>\theta^{r/\beta} \Gamma(1 - \frac{r}{\beta})</math>, then the <math>r</math>-th moment of <math>Y</math> following the CEIWPS distribution with parameters <math>(\theta, \beta)</math> is given by”.</p> <p>33. Instead of “<math>M_y(t)</math>” please write “<math>M_Y(t)</math>” for the two equations below eq. (10).</p> <p>34. Instead of “where <math>\mu_r</math> is the...form”.” please write “where <math>\mu'_r</math> is the <math>r</math>-th raw moment, while <math>M_Y(t)</math> denotes the moment generating function (mgf) of <math>Y</math>. Then by using (10), the mgf of <math>Y</math> can be written as”.</p> <p>35. Below “3.3. Some distributions of order statistics”: Instead of “...from exponentiated inverted Weibull...as follows” please write “...following the exponentiated inverted Weibull power series family of distributions, with parameters <math>\theta, \beta</math> and <math>\lambda</math>. Then the pdf of the <math>i</math>-th order statistic, [??], can be written as follows”. Please add a reference (in the place of [??]) for the formulation of the <math>i</math>-th order statistic.</p> <p>36. Eq. (11): End this eq. with comma, and in the next line please write “where <math>B(\cdot, \cdot)</math> denotes the beta function. The expansion...”. Also in eq. (11) use the notation <math>B()</math> instead of <math>B()</math> for the beta function.</p> <p>37. Before eq. (12): After the identity, please define <math>d_{j:m}</math>, i.e. “<math>\dots = \sum_{m=0}^{\infty} d_{j:m} z^m</math>, <math>d_{j:m} := \dots</math>, for positive integer...”.</p> <p>Page 5:</p> <p>38. After eq. (14): Please write the definition of <math>\omega_{i,j,k,m}</math> into a new line (not in the same line with where), as <math>\omega_{i,j,k,m} := \dots</math></p> <p>39. After eq. of <math>\omega_{i,j,k,m}</math>: Instead of “...is given by substitute <math>i = 1</math> in (14)...” please write “...is given by the substitution of <math>i = 1</math> into (14)...”.</p> | <p>Corrected</p> <p>Corrected</p> <p>Corrected</p> <p>Corrected</p> <p>Corrected</p> <p>Corrected</p> <p>Corrected</p> <p>Corrected</p> |
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|  | <p>40. In the first two instances of the expressions "<math>0 &lt; y &lt; \infty</math>" please add commas at the end.</p> <p>41. Put a comma after the phrase "In this section..."</p> <p>42. For all sub models of section 4, instead of "For <math>A(\lambda) = \dots</math>" please write "For <math>A(\lambda) := \dots</math>" (as the authors set each time <math>A(\lambda)</math> with some specific expression). Moreover, instead of "...distribution with the following cdf" please write "distribution with cdf".</p> <p><b>Page 6:</b></p> <p>43. <b>Last paragraph:</b> Instead "...moments for complementary...details." please write "...moments for <b>the</b> complementary exponentiated inverted Weibull Poisson distribution, <b>are</b> studied in more detail."</p> <p><b>Page 7:</b></p> <p>44. <b>Eq. (17):</b> Put a full stop at the end.</p> <p>45. Instead of "...for selected values of parameters... respectively." please write "...for selected values of parameters <b><math>\theta, \beta</math>, and <math>\lambda</math>. In particular, <math>(\theta, \beta, \lambda) := (4, 6, 0.5), (6, 4, 0.5), \dots, (7, 6, 5)</math>.</b>".</p> <p><b>Page 8:</b></p> <p>46. Instead of "...distribution for selected...respectively." please write "...distribution for <b>the same set of parameters as in Fig. 1.</b>".</p> <p><b>Page 9:</b></p> <p>47. <b>Eq. (20):</b> Instead of eq. (20) please write</p> | <p><b>Corrected</b></p> <p><b>Corrected</b></p> <p><b>Corrected</b></p> <p><b>Corrected</b></p> <p><b>Corrected</b></p> <p><b>Corrected</b></p> <p><b>Corrected</b></p> <p><b>Corrected</b></p> <p><b>Corrected</b></p> <p><b>Corrected</b></p> |
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|  | <p>“<math>Q(u) = \left[ -\frac{1}{\theta} \ln \left( \frac{1}{\lambda} \ln \{ u(e^\lambda - 1) + 1 \} \right) \right]^{-\frac{1}{\beta}}</math>”.</p> <p><b>48. Before eq. (21):</b> Instead of “In particular...as follows” please write “In particular, the median of the CEIWP distribution, say <math>Q_2</math>, is obtained by setting <math>u := 1/2</math> into (20), i.e.”.</p> <p><b>49. Eq. (21):</b> Instead of eq. (21) please write</p> $Q_2 = \left[ -\frac{1}{\theta} \ln \left( \frac{1}{\lambda} \ln \frac{e^\lambda + 1}{2} \right) \right]^{-\frac{1}{\beta}}.$ <p><b>50. Before eq. (22):</b> Instead of “...by substituting <math>A(\lambda) = (e^\lambda - 1)</math> in (10) as follows” please write “...by setting <math>A(\lambda) := e^\lambda - 1</math> into (10), i.e.”.</p> <p><b>51. Below eq. (22):</b> Please write “...the mean of the CEIWP distribution is given by”.</p> <p><b>52. Last paragraph:</b> Instead of “...for complementary...discussed.” please write “...for the complementary exponentiated inverted Weibull logarithmic distribution are discussed.”.</p> <p><b>Page 10:</b></p> <p><b>53. Eq. (24):</b> Put a full stop at the end, not comma.</p> <p><b>54. Below eq. (24):</b> Instead of “...for selected values of parameters... respectively.” please write ““...for selected values of parameters <math>\theta, \beta</math>, and <math>\lambda</math>. In particular, <math>(\theta, \beta, \lambda) := (0.7, 3, 0.1), (1, 4, 0.1), \dots, (1, 7, 0.8)</math>.”.</p> <p><b>Page 11:</b></p> <p><b>55.</b> Instead of “Figures (7) and (8)...respectively.” please write “Figures 7 and 8 illustrate the reliability and the hazard rate functions of the CEIWL distribution for the same set of parameters as in Figures (5) and (6).”.</p> | <p><b>Corrected</b></p> <p><b>Corrected</b></p> <p><b>Corrected</b></p> <p><b>Corrected</b></p> <p><b>Corrected</b></p> <p><b>Corrected</b></p> <p><b>Corrected</b></p> <p><b>Eq. (27) is correct and replaced with</b></p> $Q(u) = \left[ -\frac{1}{\theta} \ln \frac{1 - (1 - \lambda)u}{\lambda} \right]^{-\frac{1}{\beta}}$ <p><b>Corrected</b></p> |
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|  | <p><b>Page 12:</b></p> <p><b>56. Before eq. (27):</b> Instead of "...by substituting <math>A(\lambda) = \log(1 - \lambda)</math> and <math>A^{-1}(\lambda) = (1 - e^{-\lambda})</math> in (9) as follows" please write "...by <b>setting</b> <math>A(\lambda) := \ln(1 - \lambda)</math>, and <math>A^{-1}(\lambda) := 1 - e^{-\lambda}</math> into (9), <b>i.e.</b>".</p> <p><b>57. Eq. (27):</b> Please check if eq. (27) is correct (uses only one ln function). If it is ok, instead of eq. (27) please write</p> $Q(u) = \left[ -\frac{1}{\theta} \ln \frac{1-(1-\lambda)u}{\lambda} \right]^{-\frac{1}{\theta}},$ <p><b>58. Below eq. (27):</b> Instead of "In particular the median...follows" please write "In particular, the median of the CEIWL distribution, say <math>Q_2</math>, is obtained by <b>setting</b> <math>u := 1/2</math> into (27), <b>i.e.</b>". Then, join this paragraph with the above one.</p> <p><b>59.</b> Please check if the eq. below eq. (27) is correct (uses only one ln function). If it is ok, instead of the eq. below eq. (27) please write</p> $Q_2 = \left[ -\frac{1}{\theta} \ln \left( \frac{1+\lambda}{2\lambda} \right) \right]^{-\frac{1}{\theta}}.$ <p><b>60. Before, eq. (28):</b> Instead of "...by substituting <math>A(\lambda) = -\log(1 - \lambda)</math> in (10) as follows" please write "...by <b>setting</b> <math>A(\lambda) := -\ln(1 - \lambda)</math> into (10), <b>i.e.</b>".</p> <p><b>61. Below eq. (28):</b> Please write "...the mean of <math>Y</math> is <b>given by</b>".</p> <p><b>62.</b> Instead of "In this section estimation of..." please write "In this section, <b>the</b> estimation of...".</p> <p><b>Page 13:</b></p> <p><b>63.</b> Instead of "...is obtained by setting <math>\frac{\partial \ln L}{\partial \theta} = 0</math>, ...numerically." please write "...is obtained <b>by solving numerically the non-linear system</b> <math>\frac{\partial \ln L}{\partial \theta} := 0</math>, <math>\frac{\partial \ln L}{\partial \beta} := 0</math>, and <math>\frac{\partial \ln L}{\partial \lambda} := 0</math> ...".</p> <p><b>64.</b> Instead of "The first data set is given by [25],...as follows" please write "The first data</p> | <p><b>Corrected</b></p> <p><b>Corrected</b></p> <p><b>Corrected</b></p> <p><b>Corrected</b></p> <p><b>Corrected</b></p> <p><b>Corrected</b></p> <p><b>Corrected</b></p> <p><b>Corrected</b></p> <p><b>Corrected</b></p> |
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|  | set is <b>taken from</b> [25], <b>where</b> the vinyl chloride data <b>is</b> obtained from clean upgradient ground-water...as follows:".                                                                                                                                                                                                                                                                     | <b>Corrected</b> |
|  | 65. Instead of "Table (2) shows of the maximum-likelihood...data." please write "Table 2 <b>provides</b> the maximum-likelihood estimates (MLEs), <b>the AIC, BIC, and CAIC values as well as the</b> Kolmogorov-Smirnov statistics for the first data <b>set</b> ."                                                                                                                                          | <b>Corrected</b> |
|  | 66. Instead of "Figures (9) and (10) shows the..." please write "Figures <b>9</b> and <b>10</b> <b>provide</b> the...".                                                                                                                                                                                                                                                                                       | <b>Corrected</b> |
|  | <b>Page 14:</b>                                                                                                                                                                                                                                                                                                                                                                                               |                  |
|  | 67. Instead of "The following table shows...second data" please write "The following <b>Table 3 provides</b> the MLEs, <b>the AIC, BIC, and CAIC values as well as the</b> Kolmogorov-Smirnov statistics for the second data <b>set</b> ."                                                                                                                                                                    | <b>Corrected</b> |
|  | 68. Instead of "In order to assess...to this data." please write "In order to assess <b>whether</b> CEIWPS models <b>are</b> appropriate, <b>Fig. 11 provides</b> the histogram of the data <b>set as well as</b> the plots of the fitted CEIWP, CEIWL and EIW density functions. From <b>Fig. 11</b> it is concluded that the CEIWP distribution is <b>quite</b> suitable <b>for</b> this data <b>set</b> ". | <b>Corrected</b> |
|  | 69. Instead of "Figures (11) and (12) give...second data set" please write "Figures <b>11</b> and <b>12 provide some</b> plots of <b>the</b> estimated <b>cdf as well as</b> the estimated <b>probability densities</b> of the fitted CEIWP, CEIWL and EIW models for the second data set".                                                                                                                   | <b>Corrected</b> |
|  | 70. Instead of "The third data set is given by [27]...as follows" please write "The third data set is <b>taken from</b> [27]. The <b>corresponding</b> data are referring to time values between failures for <b>a</b> repairable item. <b>The data set is</b> as follows:".                                                                                                                                  | <b>Corrected</b> |
|  | <b>Page 15:</b>                                                                                                                                                                                                                                                                                                                                                                                               |                  |
|  | 71. Instead of "The following table shows...third data" please write "The following <b>Table 4 provides</b> the MLEs, <b>the AIC, BIC, and CAIC values as well as the</b> Kolmogorov-Smirnov statistics for the third data <b>set</b> ".                                                                                                                                                                      | <b>Corrected</b> |



**SDI Review Form 1.6**

|                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                 |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
|                                  | <p><b>72. 2<sup>nd</sup> paragraph:</b> Instead of “The values in Table (4), indicate...data set.” please write “The values in Table 4, indicate that the complementary exponentiated inverted Weibull Poisson model is a strong competitor among other distributions that was used here to fit this data set.”.</p> <p><b>73.</b> Instead of “Figures (13) and (14) show...third data set” please write “Figures 13 and 14 provide some plots of the estimated cdf and pdf of the fitted CEIWP, CEIWL and EIW models for the third data set”.</p> <p><b>74.</b> Instead of “A density plot compares... CEIWL and EIW models.” please write “In Figure 14 the fitted densities of the CEIWP, CEIWL and EIW models are compared to the empirical histogram of the observed third data set. Based on the plots of Figure 14, one can notice that the fitted density of the CEIWP model is closer to the empirical histogram than the corresponding densities of the CEIWL and EIW models”.</p> <p><b>75. Conclusion:</b> Please revise: “In this paper, a new family of lifetime distributions, called the complementary exponentiated inverted Weibull power series (CEIWPS), was introduced. This family was obtained by compounding the exponentiated inverted Weibull and power series distributions. The properties of the proposed family were discussed, including the quantile function, the moments and the moment generating function. Some distributions of order statistics were also obtained. The estimation of the model parameters were performed by the maximum likelihood method. Two special sub-models of the new family were investigated, namely the complementary exponentiated inverted Weibull Poisson distribution and the complementary exponentiated inverted Weibull logarithmic distribution. Some mathematical properties of the new distribution were also discussed. Finally, the complementary exponentiated inverted Weibull Power series models were fitted to real data sets revealing the flexibility and potentiality of the proposed CEIWPS family of distributions.</p> | <p><b>Corrected</b></p> <p><b>Corrected</b></p> <p><b>Corrected</b></p> <p><b>Corrected</b></p> <p><b>Acknowledgement is added in paper</b></p> |
| <b>Optional/General comments</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                 |