

Reviewer's Report on Ms_AJPAS_41224

General Comments:

1) The proposed distribution is interesting and with bounded support could be useful in certain real life applications.

2) The paper is written very poorly and contains quite a bit of typos and grammatical errors. Please see my corrections/comments/suggestions marked in "RED" on certain pages of the paper (please see the attachment).

3) The title of the paper should change. The paper is NOT "Theoretical Analysis", it is rather the routine analysis done in all the papers similar to the paper under review. The reviewer suggests the following title:

The Kumaraswamy Exponentiated U-Quadratic Distribution: Properties, Characterizations and Application

4) The reviewer has added the "Characterizations" which if included, will complete, in some way, the paper. I explain more about this in my "Specific Comments" below.

Specific Comments:

5) The formulas (2.3) for the $s(x)$ and (2.4) for the hazard function, should be corrected as follows:

$$s(x) = 1 - \frac{\alpha}{3} (x - \beta)^3 + (\beta - a)^3, \quad x \in [a, b], \quad (2.3),$$

and

$$h(x) = \frac{\delta \lambda \theta \alpha^{\theta \lambda} 3^{1-\theta \lambda} (x - \beta)^2 (x - \beta)^3 + (\beta - a)^3}{1 - \frac{\alpha}{3} (x - \beta)^3 + (\beta - a)^3}, \quad x \in (a, b). \quad (2.4)$$

6) The derivations are rather straightforward and seem correct. To improve the paper and makes it complete, in some way, a "Characterizations Section" should be added as the investigator may want to know if the KweUq model is the right one for their data set.