

An Extension of Lomax Distribution: Properties and Applications

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Abstract—In this manuscript, a new model of Lomax distribution i.e. Rayleigh Lomax distribution is formulated using the T-X system of distributions. Various statistical properties of the proposed model have been evaluated including reliability analysis, moments, entropy and maximum likelihood estimation technique. For comparison of the new generalized model with different existing models, three real life data sets have been used for illustrating the validity of the distribution in survival analysis and testing of best fit.

Keywords: Rayleigh Lomax Distribution, Reliability analysis, Moments, Order Statistics, Renyi Entropy, AIC, BIC and AICC.