

Distribusi power lindley marshall-olkin = Marshall olkin extended power lindley distribution

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Abstrak

Distribusi Lindley diperkenalkan oleh Lindley 1958 dalam konteks inferensi Bayes. Baru-baru ini, perluasan dari distribusi Lindley diusulkan oleh Ghitany 2013 dan disebut distribusi yang dihasilkan disebut distribusi power Lindley. Skripsi ini akan memperkenalkan perluasan dari distribusi power Lindley menggunakan metode Marshall-Olkin dan akan menghasilkan distribusi power Lindley Marshall-Olkin PLMO. Distribusi PLMO dapat lebih fleksibel dalam merepresentasikan data dengan berbagai bentuk. Sifat fleksibilitas ini disebabkan oleh penambahan parameter ke distribusi power Lindley.

Beberapa sifat PLMO akan dijelaskan dalam skripsi ini, seperti probability density function pdf, cumulative distribution function cdf, fungsi survival, fungsi hazard, kuantil, dan momen ke-r. Estimasi parameter PLMO dilakukan dengan menggunakan metode maksimum likelihood. Distribusi PLMO diterapkan pada data dan akan dibandingkan dengan distribusi Lindley, power Lindley, Lindley Marshall-Olkin LMO, gamma, dan Weibull. Perbandingan model akan menggunakan nilai log likelihood, AIC, dan BIC.

.....Lindley distribution was introduced by Lindley 1958 in the context of Bayes inference. Recently, a new generalization of the Lindley distribution was proposed by Ghitany et al. 2013, called power Lindley distribution. This paper will introduce an extension of the power Lindley distribution using the Marshall Olkin method, resulting in Marshall Olkin Extended power Lindley MOEPL distribution. The MOEPL distribution offers a flexibility in representing data with various shapes. This flexibility is due to the addition of a tilt parameter to the power Lindley distribution.

Some properties of the MOEPL were explored, such as probability density function pdf, cumulative distribution function cdd, hazard rate, survival function, and quantiles. Estimation of the MOEPL parameters was conducted using maximum likelihood method. The proposed distribution was applied to data. The results were given which illustrate the MOEPL distribution and were compared to Lindley, power Lindley, Marshall Olkin Extended Lindley MOEL, gamma, and Weibull. Models comparison using the log likelihood, AIC, and BIC showed that MOEPL fit the data better than the other distributions.