

## Distribusi negative binomial-generalized exponential (NB-GE) = Negative binomial-generalized exponential (NB-GE) distribution

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### Abstrak

Distribusi Negative Binomial-Generalized Exponential (NB-GE) merupakan distribusi yang mampu memodelkan data overdispersi dengan extreme excess zeros yaitu lebih dari 80% angka nol dalam data. Distribusi Negative Binomial-Generalized Exponential (NB-GE) merupakan distribusi campuran hasil dari mixing antara distribusi Negative Binomial (NB) dengan distribusi Generalized Exponential (GE). Pembentukan distribusi Negative Binomial-Generalized Exponential (NB-GE) serta karakteristik-karakteristik distribusi Negative Binomial-Generalized Exponential (NB-GE) seperti fungsi kepadatan peluang, momen ke-, mean, variansi, koefisien skewness dan koefisien kurtosis dibahas pada pada skripsi ini. Penaksiran parameter-parameter dari distribusi Negative Binomial-Generalized Exponential (NB-GE) menggunakan metode maximum likelihood. Sebagai ilustrasi, digunakan data kecelakaan fatal yang memiliki lebih dari 80% angka nol yang dimodelkan dengan distribusi Negative Binomial-Generalized Exponential (NB-GE).

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Negative Binomial-Generalized Exponential (NB-GE) distribution is a distribution that capable for modeling overdispersion data with extreme excess zeros, which is more than 80% zeros in a data. The distribution is a mixture distribution that obtained by mixing the Negative Binomial (NB) distribution with the Generalized Exponential (GE) distribution. The formation of the Negative Binomial-Generalized Exponential (NB-GE) distribution and the characteristics of the Negative Binomial-Generalized Exponential (NB-GE) distribution such as the probability density function,  $k$ th moment, mean, variance, skewness and kurtosis are discussed in this paper. Estimation of the parameters from the Negative Binomial-Generalized Exponential (NB-GE) distribution using the maximum likelihood method. As an illustration, Negative Binomial-Generalized Exponential (NB-GE) distribution used to model the data of fatal crash that has more than 80% zeros.