

## ABSTRACT

### APPROXIMATION GENERALIZED $t$ DISTRIBUTION THROUGH GAMMA DISTRIBUTION USING *GENERALIZED BETA 2* DISTRIBUTION AND *GENERALIZED GAMMA* DISTRIBUTION

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*Generalized t* distribution  $(\mu, \sigma, p, q)$  is one of the members of continuous distribution that has four parameters, the parameter  $(p, q)$  are form parameters that the parameter  $\mu$  is a location parameter and  $\sigma$  is a scale parameter. The *generalized beta 2* distribution  $(a, b, m_1, m_2)$  has four parameters where the parameter  $(a, m_1, m_2)$  are form parameters and the parameter  $b$  is a scale parameter. The *s generalized gamma* distribution  $(a, \gamma, m_1)$  has three parameters, which  $(\gamma, m_1)$  are form parameters and  $a$  is a scale parameter. If the parameter  $a = 1$  in a *generalized gamma* distribution then that distribution called a gamma distribution with two parameter, where the parameter  $(\gamma)$  is a form parameter and  $(m_1)$  as scale parameter. The purpose of this research is to approximate *generalized t* distribution to *gamma* distribution through *generalized beta 2* distribution and *generalized gamma* distribution by equalizing moment generating function and characteristic function. Based on the result which had been obtained analytically and graphically by R 3.2.2 software, *gamma* distribution can be closed by *generalized t* distribution through *generalized beta 2* distribution and *generalized gamma* distribution this approximate using reparameterization with moment generating function and the characteristic function.

Keyword : *Generalized t* distribution, *Generalized beta 2* distribution, *Generalized Gamma* distribution, *Gamma* distribution , *Momen generating function*, and *Characteristic function*.