

## ABSTRACT

### APPROXIMATIONS OF CHI-SQUARE DISTRIBUTION TO GENERALIZED LOG LOGISTIC DISTRIBUTION (GLLD)

By

KARTIKA CANDRA BUANA

To examine the relation of a distribution with other distributions based on the moment generating function is established, the necessary concepts and theories that support of statistical sciences. Concepts or methods that can be used to perform the approach of the two distributions is to look value of moment generating function, by looking value of cumulative distribution functions, and the last is to use the theory of the central limit theorem. Generalized Log-Logistic Distribution (GLL) is a generalization of the log-logistic distribution with four parameters  $(\alpha, \beta, m_1, m_2)$ .

Purpose of this study is approximation the Chi-square distribution ( $v$ ) with the generalized log-logistic distribution  $(\alpha, \beta, m_1, m_2)$  by looking value of moment generating function both of the distribution. Based on the result it can be concluded that the Chi-Square distribution can be approximated by the generalized log-logistic distribution.

**Keywords:** *Chi-Square Distribution, Generalized Log-Logistic Distribution, Moment Generating Function*