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KEY WORD: TWO-PARAMETER EXPONENTIAL DISTRIBUTION/LOCATION PARAMETER/POWER OF TEST
PHISANU CHIAWKHUN : A COMPARISON ON POWER OF TEST STATISTICS FOR TESTING EQUALITY OF LOCATION PARAMETER OF TWO-PARAMETER EXPONENTIAL DISTRIBUTION. THESIS ADVISOR: ASSOC.PROF.THEERAPORN VERATHAWON,Ph.D. 109 pp. ISBN 974-583-660-5

The purpose of this research is to compare the power of the 3 test statistics for testing equality of location parameter of two-parameter exponential distribution. They are: Iterated Procedure Test Statistics (IP), Likelihood Ratio Test Statistics (LR) and Tiku's Test Statistics (TIKU). The two criterions employed for the comparison are capability to control probability of type I error and power of the test under two-parameter exponential distribution with scale parameter=0.5,1,2 and 5, number of population=2,3 and 5,each population group uses sample size of 10,15 and 20. The studies include the case of complete data and incomplete data with right-censored data =10%,20% and 30% at significant level (α) =0.01 and 0.05,respectively. The data of this experiment are generated through the Monte Carlo simulation technique with 1,000 repetitions. The results of this research can be summarized as follows:-

1) Probability of Type I Error
   a) In case of complete data
      TIKU and LR can control the probability of type I error in all cases,but IP can't control the probability of type I error when the scale parameter is high at all sizes of sample and population.
   b) In case of incomplete data : right-censored data
      In most cases, TIKU and LR can control the probability of type I error, but IP can control it only in the case in which the scale parameter is low.
2) Power of The Test
   a) In case of complete data
      TIKU has higher power of the test than LR when the scale parameter is low. LR has higher power of the test than TIKU and IP when the scale parameter is high.
   b) In case of incomplete data : right-censored data
      TIKU has higher power of the test than LR and IP when the scale parameter is low and medium, but the LR has higher power of the test than TIKU and IP when the scale parameter and the number of population are high.