

ABSTRACT

This research aims to study small sample comparison of the maximum likelihood estimate (MLE), Minimum-B estimate (MBE), Modified Minimum-B (MMBE) and Minimum Chi-square estimate (MCSE) of the parameter of Poisson distribution on the basis of their efficiency. Previous researches have shown that the efficiency of MLE and MCSE varies under different circumstances.

Chapter 1 contains the brief introduction of the chi-square goodness of fit test statistic and some developments in the context of goodness of fit test statistics has also been discussed in this chapter.

In chapter 2, literature review has been discussed with reference to the empirical and comparative study of different estimation methods. Chapter 3 comprises the explanation which provides the basis for modified B-statistic and the derivation of its mean and variance also the Research methodology of the comparative study that has been done is discussed in this chapter. The samples of different sizes are generated using a computer programme and the results regarding the efficiency in terms of mean square error and variance for the above mentioned estimates are given, Absolute percent bias are also calculated for these estimates with different choices of θ and the constants A, B & C. The efficiency of these estimates has been calculated for different group sizes (k). Chapter 5 contains the comparative discussion of the results.