

A GENETIC ALGORITHM TO DETERMINE THE STRATUM BOUNDARIES USING PRPORTIONAL ALLOCATION*

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ABSTRACT

The stratified sampling is a method of sampling from a population. The focus will be on determine the best stratum boundaries using proportional allocation, which makes the variance less what can be, so we get more statistical precision than with simple random sampling. Assuming that the number of strata and the total sample size are predetermined. A genetic algorithm is used to obtain the stratum boundaries and the allocated sample size depending on the objective function of minimum variance of the mean of the stratified sampling. The performance of GA algorithm is compared with some methods.

KEYWORDS: Stratified Sampling, Stratum Boundaries, Proportional Allocation, Genetic Algorithm



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