

On Optimum Stratification

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Abstract : In this manuscript, we discuss the problem of determining the optimum stratification of a study (or main) variable based on the auxiliary variable that follows a uniform distribution. If the stratification of survey variable is made using the auxiliary variable it may lead to substantial gains in precision of the estimates. This problem is formulated as a Nonlinear Programming Problem (NLPP), which turn out to multistage decision problem and is solved using dynamic programming technique.

Keywords : auxiliary variable, dynamic programming technique, nonlinear programming problem, optimum stratification, uniform distribution

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