World Academy of Science, Engineering and Technology
International Journal of Mathematical and Computational Sciences
Vol:12, No:02, 2018

Estimation of Population Mean under Random Non-Response in Two-Phase Successive Sampling

Authors : M. Khalid, G. N. Singh

Abstract : In this paper, we have considered the problem of estimation for population mean, on current (second) occasion in the presence of random non response in two-occasion successive sampling under two phase set-up. Modified exponential type estimators have been proposed, and their properties are studied under the assumptions that numbers of sampling units follow a distribution due to random non response situations. The performances of the proposed estimators are compared with linear combinations of two estimators, (a) sample mean estimator for fresh sample and (b) ratio estimator for matched sample under the complete response situations. Results are demonstrated through empirical studies which present the effectiveness of the proposed estimators. Suitable recommendations have been made to the survey practitioners.

Keywords : successive sampling, random non-response, auxiliary variable, bias, mean square error
Conference Title : ICCSDA 2018 : International Conference on Computational Statistics and Data Analysis
Conference Location : Mumbai, India
Conference Dates : February 22-23, 2018