

An Alternative Unequal Probability Without Replacement Sampling Scheme

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ABSTRACT

In Midzuno-Sen without replacement sampling scheme $P(s)$, the probability of selection of a sample $s, s = 1 \dots \dots \dots \binom{N}{n}$ is proportional to the sample aggregate of sizes $x_i, i = 1 \dots \dots n$. when the distribution of population sizes is skewed, this sampling scheme may not be appropriate, it is shown through empirical investigations that an alternative scheme with $P(s)$ based upon harmonic mean of sizes, when modified thorough controlled sampling technique of [2], performs remarkably better then Midzuno-Sen scheme. The performance of the proposed scheme has also evaluated the scheme of [3].

Key words: Unequal probability sampling; Midzuno-Sen scheme; harmonic mean of sizes; Controlled sampling.