Abstract

The statistical quality control charts are made to look for process changes brought on by identifiable causes of variation. When a process is being monitored, its incontrol and out-of-control states are determined using a control charting framework. The different charts are of SHEWHART type and memory type such as CUSUM and EWMA are memory type control charts are discussed.

Using CUSUM charting structure under Simple random sampling, Ranked set sampling, Median ranked set sampling and extreme ranked set sampling on dispersion estimators to check the correlation between the estimators of process control charts. The simulation study is used to generate the random samples for different sample size. Take different sample sizes and different values of and different shifts under sampling schemes. These schemes are applicable on different dispersion estimators. The individual performance measures of ARL, SDRL, and MDRL are computed for performance comparison.