Abstract

The purpose of quality control is to find process defects and produce the products without faults. Control charts plays vital role to reduce the variation in products and produce efficient products. In this universe even two products are not same. SPC tools help to verify assignable reasons of variation. Homogeneously weighted moving average (HWMA) control chart is used for the detection of small shifts. Comparison is made between simple random sampling (SRS) and ranked set sampling (RSS) using HWMA control chart on different shifts. ARL is computed at 200 and 370 using Monte Carlo simulation. Sample size is taken for n=5 and 10. Performance of the charts improve when the sample size increase. The presentation of existing and proposed control chart is assessed by using the performance measures of average run length (ARL), standard deviation of run length (SDRL) and median of run length (MDRL). RSS helps to improve the efficiency of HWMA control chart. HWMA control chart under RSS performs better as compare to the SRS