ABSTRACT

Exponentially weighted moving average EWMA and double EWMA (DEWMA) control charts were designed under the normality assumption. This study consist of various symmetrical nonnormal t distribution and skewed Gamma distribution to check the effect on non-normality on the median run length performance of both EWMA and DEWMA charts. We consider MDRL as our performance measure because it is suitable to use as we have to deal with skewed distribution and MDRL is less effect by extreme values. MDRL performance were computed and compared using Monte Carlo simulations. Results tells us that DEWMA chart can be designed to be robust to nonnormality, that the MDRL performance of EWMA and DEWMA charts were more robust to t distributions and DEWMA was more robust to non-normality for larger values of the smoothing parameter. This study consist of different values of smoothing parameter λ = 0.1, 0.2, 0.3, 0.4 and **0.5** for different choices of shift