عنوان مقاله:

A New Uni-attribute Control Chart to Monitor the Number of Nonconformities

محل انتشار:

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خلاصه مقاله:

The most well-known uni-arribute control chart used to monitor the number of nonconformities per unit is the Shewhart type C-chart. In this paper, a new method is proposed in an attempt to reduce the false alarm rate in the C-chart. To do this, the decision on beliefs (DOB) concept is first utilized to design an iterative method, where the belief is used to decide whether a process is in an in-control or out-ofcontrol state. Then, a new statistic is defined based on the DOB and the chart is designed accordingly. Some simulation experiments are also performed to evaluate the performance of the proposed scheme and to compare its in-control and out-of-control average run length (ARL) with those of the C and the EWMA charts in different scenarios of mean shifts. Finally, a case study is given to illustrate the application of the proposed methodology. The results show the proposed control chart outperforms the other two .charts

کلمات کلیدی:

Uni-attribute quality control; Process monitoring; Number of nonconformities; Beliefs; C-chart