

عنوان مقاله:

Simultaneous design of robust inter and intra-cell layouts in uncertain multi-period situations of manufacturing systems

محل انتشار:

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خلاصه مقاله:

Facility layout problem has a considerable effect on manufacturing cost; hence, it can be viewed as a crucial subject in the design of manufacturing systems operating at dynamic and stochastic situations in particular. This paper proposes a new quadratic assignment-based mathematical model for concurrent design of robust inter and intra-cell layouts in a multi-period and uncertain environment of manufacturing systems. The product demands are presumed to be independent normally distributed random variables with known expectation that change from period to period at random. In the proposed model, time value of money is also considered. To validate the proposed model, a randomly generated test problem is solved by using simulated annealing (SA) algorithm programmed in Matlab. Finally, the results are analyzed from statistical and sensitivity points of view.

کلمات کلیدی:

Simulated annealing; Stochastic dynamic facility layout problem; Robust inter and intra-cell layout

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