عنوان مقاله:

A Benders' Decomposition Approach for Dynamic Cellular Manufacturing System in the Presence of Unreliable Machines

محل انتشار:

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خلاصه مقاله:

In order to implement the cellular manufacturing system in practice, some essential factors should be taken into account. In this paper, a new mathematical model for cellular manufacturing system considering different production factors including alternative process routings and machine reliability with stochastic arrival and service times in a dynamic environment is proposed. Also because of the complexity of the given problem, a Benders' decomposition approach is applied to solve the problem efficiently. In order to verify the performance of proposed approach, some numerical examples are generated randomly in hypothetical limits and solved by the proposed solution approach. The comparison of the implemented solution algorithm with the conventional mixed integer linear and mixed integer non .linear models verifies the efficiency of Benders' decomposition approach especially in terms of computational time

کلمات کلیدی:

Cellular manufacturing system, Benders' decomposition approach, Machine reliability, Machine utilization factor