

عنوان مقاله:

The Reconfigurable Manufacturing Systems and a Model to Optimal Configurations Problem and Optimal Selection Policy Problem

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خلاصه مقاله:

This paper presents Reconfigurable Manufacturing System (RMS) characteristics through comparison with conventional manufacturing systems in order to state necessity of design a new manufacturing system i.e. RMS. A RMS is a new paradigm that focuses on manufacturing a high variety of products at the same system. This system is a new type of manufacturing cell, with characteristics of reconfigurability, reusability and scalability, needs to achieve the agile manufacturing system (AMS). Products required by customers are classified into several product families, each of which is a set of similar products. A reconfigurable manufacturing system manages to satisfy customers, with each family corresponding to one configuration of the RMS. Then the products belonging to the same family will be produced by the RMS under the corresponding Configuration. The manufacturing system possesses the reconfigurable function for different families. In an RMS there are three important issues: the optimal configurations in the design, the optimal selection policy in the utilization, and the performance measure in the improvement. This paper proposes a framework for a stochastic model of an RMS, which involves the above issues. Two optimization .problems and the performance measure stemmed from the issues are formulated

کلمات کلیدی:

Reconfigurable Manufacturing System, Optimal Configuration, Optimal Selection Policy, Performance Measurement

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