

Performance Evaluation of Flexible Manufacturing System: A Simulation Study

Authors : Mohammed Ali

Abstract : In this paper, evaluation of flexible manufacturing system is made under different manufacturing strategies. The objective of this paper is to test the impact of pallets and routing flexibility on system performance operating at different sequencing rules, dispatching rules and at unbalanced load condition. A computer simulation model is developed to evaluate the effects of aforementioned manufacturing strategies on the make-span performance of flexible manufacturing system. The impact of number of pallets is shown with the different levels of routing flexibility. In this paper, the same manufacturing system is modeled under different combination of sequencing and dispatching rules. A series of simulation experiments are conducted and results analyzed. The result of the simulation shows that there is impact of pallets and routing flexibility on the performance of the system.

Keywords : flexibility, flexible manufacturing system, pallets, make-span, simulation

Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development

Conference Location : Chicago, United States

Conference Dates : December 12-13, 2020