

Simulation Analysis of Rabbit Chase Models on a Cellular Manufacturing System

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Abstract. Cellular manufacturing system facilitates lean manufacturing in terms of production flexibility and control simplification. The paper presents a case study on a newly constructed cellular manufacturing system adopted by an electronic assembly factory as the back end process. The original rabbit chase is infeasible in this case because products handled are multi-types and multi-paths. Further, the cycle times are largely imbalanced. The application of two proposed rabbit chase models was investigated through computer simulations enhanced with ANOVA and surface response methodology. The allocation of operators and the impact of changing lot size to the performances of the cell are investigated. For the findings, there are clear indications of the effects of the number of operators and the lot size for the performances of the system, regardless which rabbit chase model used.

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