A research on problems of mixed-line production and the re-scheduling

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Abstract

This paper is to establish and solve the re-scheduling problems under a flow-shop mixed-line production planning. A case study of the final stage, module manufacturing, of TFT-LCD is provided for illustration of the developed mechanism. In this research, the mixed-line production system and its rescheduling problems are discussed. The buffer management and the DBR scheduling methods based on the Theory of Constraints are used to detect, identify, and level the bottleneck problems in the system. The direct contribution of the results is to increase the production flexibility and mobility of the manufacturing scheduling system and to benefit the entire members of supply chain system. The simulation software, Flexsim, is used to construct and evaluate the developed model, some phenomena of simulated system performance on the maximum delay of orders, the total cost of delay, and make span are discussed.

Keyword：Mixed-line production, Bottleneck, Re-scheduling, DBR