

A Multi-Criterion Approach For Kanban Allocations

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Summary

In this paper, a single-item, multi-stage, serial production system is considered. Materials in the system are controlled by Kanban discipline. A fixed total number of Kanbans over a given number of serial workstations is allocated. Three conflicting objectives, the average throughput rate (to be maximized), the average work-in-process (to be minimized), and the average flow time (to be minimized) are considered. Stochastic system simulation is used to generate the efficient set of Kanban allocations. Then the analytic hierarchy process (AHP) is utilized to identify the most-preferred allocation. An illustrative example is given. (C) 1998 Elsevier Science Ltd. All rights reserved.

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