Abstract

Kanban is a pull production system that is very useful in Automotive Production Industry. Logistic systems in automotive industry, tries to apply the best system of logistic to supply the production lines and stations by bringing the parts and all requirements in best quantity and timing in order to come off the JIT specifications. In this article we try to exert a sequencing concept in Kanban card rotations to minimize the line shortage of parts causes stop in production procedure. Minimizing the Resupplying Cycle Times in production lines lead to less quantity of shortages that's one important purpose of lean production. We introduce an appropriate sequencing and scheduling objective function related to Kanban card rotations to minimize some criteria affects the line inventories and causes some improvements on probable shortages. To know the weights of each job we used the Shannon's Entropy method combined with SAW decision making method and we solved the sequencing and scheduling problem with total weighted tardiness objective function, using VNS heuristic method. To show the improvement and positive effects of our method we presented a real world case study and applied our model to a real world case study to observe the improvements in backlogs and tardiness in Kanban resupplying. Finally we presented the achieved improvements.
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**Index Terms**

Computer Science

Operational Research

**Keywords**

Kanban  Just-in-Time  Production Systems  Scheduling  WSPT