

A Simulative Approach for JIT Parts-Feeding Policies

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Abstract : Lean philosophy follows the simple principle of “creating more value with fewer resources”. In accordance with this policy, material handling can be managed by the mean of Kanban which by triggering every feeding tour only when needed regulates the flow of material in one of the most efficient way. This paper focuses on Kanban Supermarket’s parameters and their optimization on a purely cost-based point of view. Number and size of forklifts, as well as size of the containers they carry, will be variables of the cost function which includes handling costs, inventory costs but also shortage costs. With an innovative computational approach encoded into industrial engineering software Tecnomatix and reproducing real-life conditions, a fictive assembly line is established and produces a random list of orders. Multi-scenarios are then run to study the impact of each change of parameter and the variation of costs it implies. Lastly, best-case scenarios financially speaking are selected.

Keywords : Kanban, supermarket, parts-feeding policies, multi-scenario simulation, assembly line

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