

Spare Part Inventory Optimization Policy: A Study Literature

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Abstract : Availability of Spare parts is critical to support maintenance tasks and the production system. Managing spare part inventory deals with some parameters and objective functions, as well as the tradeoff between inventory costs and spare parts availability. Several mathematical models and methods have been developed to optimize the spare part policy. Many researchers who proposed optimization models need to be considered to identify other potential models. This work presents a review of several pertinent literature on spare part inventory optimization and analyzes the gaps for future research. Initial investigation on scholars and many journal database systems under specific keywords related to spare parts found about 17K papers. Filtering was conducted based on five main aspects, i.e., replenishment policy, objective function, echelon network, lead time, model solving, and additional aspects of part classification. Future topics could be identified based on the number of papers that haven't addressed specific aspects, including joint optimization of spare part inventory and maintenance.

Keywords : spare part, spare part inventory, inventory model, optimization, maintenance

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