Models of performance evaluation of spare parts inventory management

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Abstract

The supply chain of spare parts is the intersection between two different organizations: the supply chain and the after-sales and maintenance services. The traditional configuration of organizations of spare parts management, is the decentralized management configuration, causes the lack of information sharing between technicians, unshared inventory, and ultimately, the logistics flow of deliveries and supply time significant which can engender costs important and low quality of service.

In order to mitigate these effects, several maintenance organizations have directed towards centralized management of a supply chain of spare parts. For example, some authors have attempted to define improvement paths in terms of models to satisfy performance criteria such as hybrid methods for demand forecasting and approaches for the selection of management methods based on inventory management criteria.

In addition, other authors are directed towards the integration of risk management in forecasting and management of the stock through the probabilistic models. Among these models, the graphical models are the most used for example the Bayesian networks and petri nets.

This work involves developing a comparison of the models and approaches that deal with the forecasting and performance evaluation of spare parts inventory management.

Keywords
Spare parts; management; prediction; performance; risk; networks.

Biographies

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