عنوان مقاله:

Optimizing inventory management costs in supply chains by determining safety stock placement

محل انتشار:

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خلاصه مقاله:

For a production business, the measurement of safety inventory to be maintained during each step of a supply chain is a key concern and requires providing the clients an irregular state of management. The stock held should be small to reduce holding costs and capacity while maintaining the capacity to service customers in time to satisfy much, if not all, the demand. This paper discusses this issue by using a deterministic time structure and provides a measure of the security position of stock in supply chains for the overall network. First, prove that the overall problem is NP-hard. Then set up a couple of parameters that characterize an optimal overall network structure. To take care of these problems, a polynomial approximation is considered. An arrangement of computational tests to survey the execution of the general-network calculation and to decide how to set different parameters for the calculation is selected. In addition to the general network case, the two-layer network issues are considered. Also, a nonlinear model for determining the level of safety stock in different components of the supply chain to minimize the related safety stock costs is developed.

کلمات کلیدی:

Supply chains, Network problems, Safety stock, Optimization Algorithms