عنوان مقاله:

Design the reliability model in four-level integrated supply chain with stochastic constraints

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خلاصه مقاله:

We designed the reliability model in four-level integrated supply chain with stochastic constraints. First level consists of a supplier, the second level of a producer, the third level of a wholesaler and the fourth level of multiple retailers.Levels agree with each other on having the same period length for each one of products to make an integrated chain for maximizing the reliability in chain while the stochasticconstraints are satisfied. Order quantity of products in each levelhas normal distribution with known mean and variance. In this regard, stochastic constraints are included: limited procurement and production cost, limited space cost, limited number of orders,limited shortage costs, limited production capacity and setup cost for producer. In this problem, there are several multi stage products and shortage is allowed for all products in levels. So, wedesigned mentioned model in shortage condition. In other words, the goal is to find optimum agreed period length for products to maximize total reliability in chain while stochastic constraints arefulfilled. Problem model is nonlinear and large. Also, the model is applicable for real-world supply chain problems in the cases of levels or echelons are going to executive external integration for maximizing the reliability.

کلمات کلیدی:

Reliability; Supply chain management; Stochastic constraints; Integrated supply chain; Period length

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