

Mixture inventory model in fuzzy demand with controllable lead time

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Abstract

The goal of this paper is to find the optimal order quantity and lead time simultaneously, and then minimizing the total inventory cost in fuzzy annual demand. In the past, most of the publications assume that the annual demand is deterministic. However, there are many uncertain factors in real world. Therefore, it can be described by fuzzy theory. In this study, we use the concept of fuzziness to join the mixture inventory system and construct the solution procedure to find the optimal order quantity and lead time. In the model, we use the signed distance, a ranking method for fuzzy numbers, to estimate the annual demand, and to derive the corresponding optimal solution. Numerical example is included to illustrate the procedures of the solution.

Keywords : Inventory, fuzzy theory, lead time, signed distance.

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