

AN EOQ MODEL WITH SHORTAGES IN FUZZY ENVIRONMENT UNDER GENERALIZED 0.5-PREFERENCE

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Abstract

Inventories are materials stored, waiting for processing, or experiencing processing. They are ubiquitous throughout all sectors of the economy. In this paper, the fuzzy total annual inventory costs based on the fuzzy arithmetical operations under Function Principle. The final purpose is to find the optimal order quantities and optimal order level of our proposed models under the preference of manager by using Graded k -preference Integration Representation method for defuzzifying the fuzzy total annual inventory cost, and by using Extension of the Lagrangean method for solving inequality constrain problem. Furthermore, we find the optimal order quantity or the optimal fuzzy order quantity and the optimal fuzzy order level of our proposed models. Furthermore, our optimal solutions can be specified to meet classical production inventory models.

Key Words and Phrases : *Fuzzy inventory, Economic order quantity (EOQ), Function principle, Preference, Graded k -preference integration representation.*

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