

SOLUTION OF INVENTORY MODEL WITH SPACE CONSTRAINT AND FUZZY COST COMPONENTS BY FUZZY OPTIMIZATION TECHNIQUE USING NEAREST INTERVAL APPROXIMATION

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ABSTRACT

This paper discusses an Economic Order Quantity (EOQ) model with shortage and space constraint where the setup cost, the holding cost, the shortage cost are considered as fuzzy numbers. The fuzzy parameters are then transformed into corresponding interval numbers. Minimization of the interval objective function (obtained by using interval parameters) has been transformed into a classical multi-objective EOQ problem. The order relation that represents the decision maker's preference among the interval objective function has been defined by the right limit, left limit, center and half-width of an interval. This concept is used to minimize the interval objective function. The problem has been solved by fuzzy programming technique. Finally, the proposed method is illustrated with a numerical example.

KEYWORDS: Inventory, Interval Number, Space Constraint, EOQ, Fuzzy Sets, Fuzzy Optimization Technique, Multi-Objective Programming.