

DECISION MAKING UNDER FUZZY ENVIRONMENT FOR DETERIORATING ITEMS WITH STOCK DEPENDENT DEMAND UNDER INFLATION EFFECT

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ABSTRACT

This paper discusses a deterministic EOQ (Economic Order Quantity) model for deteriorating items under inflation in a fuzzy environment. The supplier gives some credit period to the retailer if the retailer orders a large quantity. This paper considers the stock dependent demand in which shortages are not allowed. We study the effects of inflation rate, deterioration rate and trade credit period on the optimal cyclic length, optimal order quantity and the total relevant cost by taking costs involved in this paper as triangular fuzzy numbers. A deep study of sensitivity analysis is made to elucidate the fuzzy model better than crisp model. A graded mean representation method is used to de-fuzzify the model.

KEYWORDS: Stock Dependent Demand, Trade Credit Period, Cycle Length, Triangular Fuzzy Numbers