Abstract

In this paper a production inventory model for the newly launched product is developed incorporating the effect of inflation and time value of money. The objective of this study is to find the economic production quantities. It is assumed that demand of the items is displayed stock dependent. Production is stopped when the stock-level reached to level Q and Q0 is the fixed stock-level. In this paper we discussed the following two situations (I) Q ≤ Q0 and (II) Q > Q0. Model is formulated to maximize the total profit. A genetic algorithm with varying population size is used to solve the model. In this GA a subset of better children is included with the parent population for next generation and size of this subset is a percentage of the size of its parent set. Numerical example is given to illustrate the model. Sensitivity analysis with respect to various parameters is also presented.

References


**Index Terms**

Computer Science

Applied Mathematics
Keywords
Genetic Algorithm  Inflation  Stock-dependent Demand