In this study a deterministic inventory model for deteriorating items with stock dependent demand is developed. In this model the shortages are allowed and partially backlogged and the effect of inflation rate and delay in payments are discussed. In this paper it is proved an inventory model for deteriorating items and stock dependent demand rate under inflation when supplier offers a permissible delay to the purchaser. Then obtains an optimal solution to find the optimal total relevant cost in two cases.

CASE-1: In this case the length of the period with the positive inventory of items is longer than the credit period.

CASE-2: In this case, the permissible delay is longer than the length of the period with the positive inventory of items. The interest of purchasing cost is charged for the delay of payments by the retailers. In both the cases the total average inventory cost per unit time is minimized.
References


Index Terms

Computer Science

Information Sciences

Keywords

Stock dependent demand, deteriorating items, inflation rate, trade credit period, shortages and backlogging.