Abstract

In this study, an inventory model for deteriorating items with multivariate demand and variable holding cost is developed. The facility of allowable delay in payment is also taken into consideration. During this period retailer can use the ensued money from sales of the supplied goods to earn interest. Demand rate is a function of on hand inventory and selling price of the item and it is considered that the stock affects the demand rate up to an assured time. Therefore, retailer will order more quantity to stimulate demand rate and to earn more money. Different cases of allowable delay in payment are discussed. The objective of this study is to maximize the retailer's total profit per unit time. The results are illustrated with some numerical examples and sensitivity analysis for each case is also carried out.
References


**Index Terms**

Computer Science  
Applied Mathematics

**Keywords**

Inventory Model  
Sensitivity Analysis  
and consumption rate