

Extended Economic Order Quantity Model under Cash Discount and Payment Delay

Chun-Tao Chang
Tamkang University
R.O.C.

Abstract

The traditional inventory models often consider that the supplier must be paid for the items as soon as the items are received by the customer. However, in practice, the supplier not only allows a certain fixed period for settling the account owed to him for the items supplied, but also may offer a cash discount to encourage a customer to pay for his purchases as soon as possible. This paper establishes a mathematical model to determine an optimal ordering policy under permissible delay of payment and/or cash discount for the customer. Furthermore, we find two theorems to characterize the optimal solution. Finally, several numerical examples are discussed to illustrate these theorems.

Keywords: Inventory, Delay Payments, Cash Discount.