

## **Single Discounted-Cash-Flow EOQ Model for a Deteriorating Item**

*Kun-Shan Wu*

Tamkang University

R.O.C.

### **Abstract**

In this technical note we discuss a paper of Chung and Lin [19] recently published in *Computers and Operations Research*. They established the model for deteriorating items with constant demand, equal replenishment cycles while taking account of time discounting. In this paper, we extend their inventory lot-size model to allow for a general continuous time-varying demand (which is more general than constant, increasing and decreasing demand patterns). The purposes of this article are two-fold: (1) To inform readers that optimal solutions for a more general model exist. (2) To show that under the assumptions of the Chung and Lin [19], the optimal solution is independent of the form of the demand rate. We have also shown that it gives the global minimum. Finally, a numerical example and its sensitivity analysis for parameters are provided to assess the solution procedure.

*Keywords:* Inventory, Time-Varying Demand, Deterioration, Time Discounting.