

Teng, J.-T.**On the economic order quantity under conditions of permissible delay in payments.** (English)

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Summary: I amend Goyal's model by considering the difference between unit price and unit cost. I then establish an easy analytical closed-form solution to the problem. The theoretical results obtained here reveal the following two managerial phenomena.

(1) In certain cases, the economic replenishment interval and order quantity decreases under the permissible delay in payments, which contradicts to Goyal's conclusion. It makes economic sense for some customers to order less quantity (or shorten the replenishment time interval) and to take the benefits of the permissible delay more frequently.

(2) If a supplier wants to reduce his/her large level of inventory, then he/she should charge an excessive interest rate on his/her customer's outstanding amount after the credit term expires. Consequently, his/her customers will order to buy more quantity than the classical economic order quantity. As a matter of fact, these two managerial phenomena have been demonstrated in the decision making of using credit cards. For example, most credit card companies provide card holders 25 days of grace period, and charge 18–20% interest on the amount past due (ie, the second phenomenon). However, for a well-established credit card holder, he/she will take the benefit of 25 days of grace period constantly, but will not spend over his/her limit and face an excessive finance charge (i.e., the first phenomenon).

MSC:

90B05 Inventory, storage, reservoirs

Cited in **6** Reviews
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