Several extensions can be made to the EOQ model, including backordering costs and multiple items. Additionally, the economic order interval can be determined from the EOQ and the economic production quantity model (which determines the optimal production quantity) can be determined in a similar fashion.

A version of the model, the Baumol-Tobin model, has also been used to determine the money demand function, where a person's holdings of money balances can be seen in a way parallel to a firm's holdings of inventory.[2]

Example

- Suppose annual requirement (AR) = 10000 units
- Cost per order (CO) = $2
- Cost per unit (CU)= $8
- Carrying cost %age (%age of CU) = 0.02
- Carrying cost Per unit = $0.16

Economic order quantity = $\sqrt{\frac{2AR * CO}{CU * CC\%}} = \sqrt{\frac{2 * 10000 * 2}{8 * 0.02}}$

Economic order quantity = 500 units

Number of order per year (based on EOQ) $= \frac{10000}{500}$

Number of order per year (based on EOQ) = 20

Total cost = $CU * AR + CO(AR / EOQ) + CC(EOQ / 2)$

Total cost = 8 * 10000 + 2(10000 / 500) + 0.16(500 / 2)

Total cost = $80080

If we check the total cost for any order quantity other than 500(=EOQ), we will see that the cost is higher. For instance, supposing 600 units per order, then

Total cost = 8 * 10000 + 2(10000 / 600) + 0.16(600 / 2)

Total cost = $80081

Similarly, if we choose 300 for the order quantity then

Total cost = 8 * 10000 + 2(10000 / 300) + 0.16(300 / 2)

Total cost = $80091

This illustrates that the Economic Order Quantity is always in the best interests of the entity.

See also

- Demand is random: Classical Newsvendor model
- Demand varies over time: Dynamic lot size model
- Several products produced on the same machine: Economic Lot Scheduling Problem
- Reorder point