

Quadrant II – Notes

Course Code: DSE5COD102

Module Name: Economic Order Quantity (EOQ)

Economic Order Quantity (EOQ)

Economic Order Quantity (EOQ) is the ideal order quantity a business should purchase to minimise its total inventory cost.

When a business concern purchases materials, it mainly incurs three cost: Purchase cost, Ordering Cost and Handling and Carrying Cost.

Purchase cost: is the cost incurred in purchase of materials, which is fixed by the suppliers and the purchase manager has little control over it.

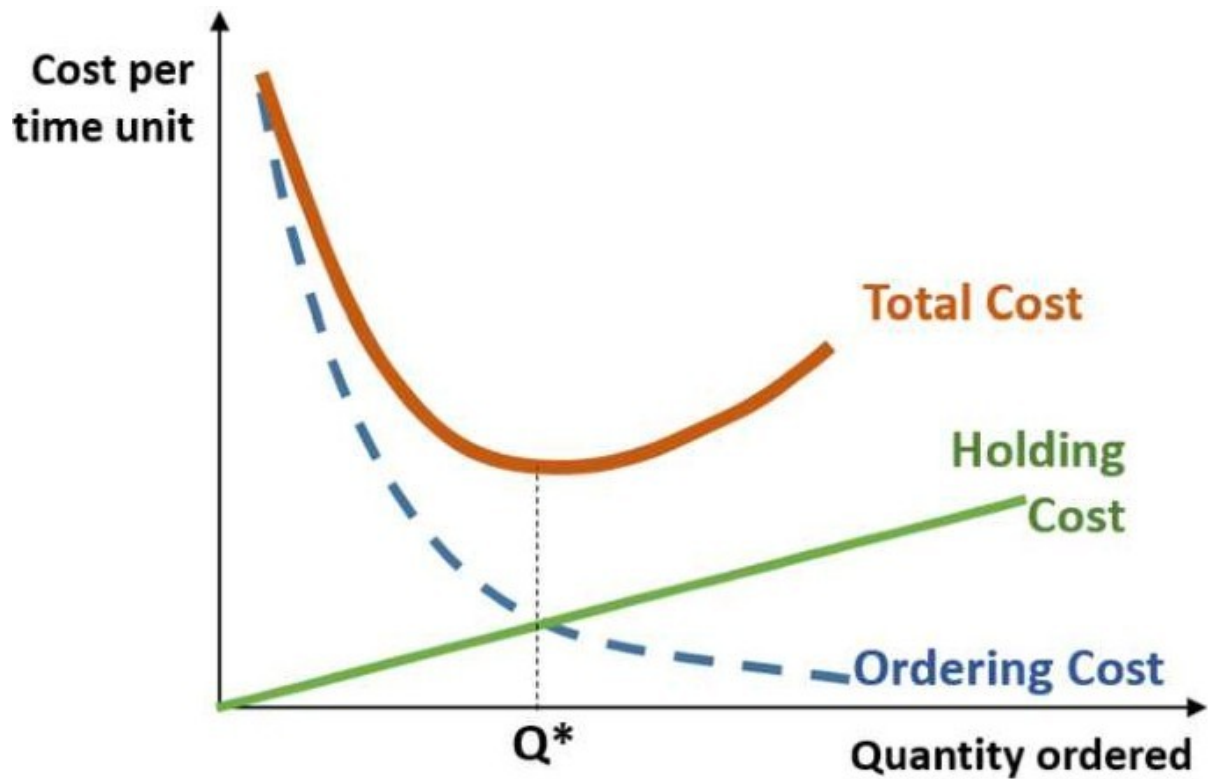
However, it is very important in stock management to have proper material control and to minimise the overall inventory cost. Therefore, to minimise the Total Inventory cost is essential to minimise the Ordering Cost as well as Carrying and Handling Cost.

Ordering Cost: Ordering cost includes the cost incurred in placing an order. It includes cost associated with screening supplier quotations, order printing and stationery cost, salaries to staff involved with receiving and inspection, transport cost etc.

Ordering cost remains unchanged for the period, irrespective of the number of orders to be placed. In short, higher the quantity ordered per order, lower the number of orders to be placed. Similarly, lower the quantity ordered per order, higher the number of orders to be placed.

Carrying Cost: Carrying cost is the cost incurred in maintaining and handling inventory. It includes warehouse costs, insurance cost, and material handling costs, deterioration and wastages of materials.

Graphical presentation EOQ



(Source: <https://abcsupplychain.com/eq-wilson-formula-calculation/>)

$$EOQ = \sqrt{2A \cdot O / C}$$

A= Annual consumption

O= Ordering cost per order

C= Carrying cost per unit of materials