

DATE OF CLASS : 02 JUNE 2021 WED

MB 104 AFA MBA - 1ST SEM

TIME 11:05 AM TO 12:05 PM

TOPIC - VALUATION OF INVENTORY
EOQ MODEL

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Inventory management is a very important aspect of working capital management.

EOQ is one of the important technique of Inventory control. It is used to determine the optimum quantity or number of orders to be placed from the suppliers.

OBJECTIVE

The main objective of economic order quantity (EOQ) is to minimise the cost of ordering and cost of carrying materials and total cost of production.

Ordering cost & carrying cost are two cost, very important components of EOQ MODEL. It will discuss below

(i) ORDERING COSTS

This cost includes the variable cost associated with placing an order for the materials.

This includes office & administrative expenses of purchasing the materials, transportation cost, and inspection etc. The following costs are the example of ordering cost

- Cost of staff posted in administration
- Cost of staff posted in purchasing department
- Cost of inspection section
- Cost of stationery, postage and telephone charges.
- Cost of floating tenders.
- Rent for the space used by the purchase department
- Cost of evaluation of quotations
- Cost of making payment
- Travelling expenses
- Legal expenses in case of purchase disputes

CARRYING COSTS

Carrying cost includes the expenses in keeping the materials in stores:

This cost includes:

- Cost of storage, Rent, heating and lighting - & Insurance
- Interest on Capital
- Expenses regarding maintaining materials, handling, recording
- Cost of bins and racks & deck
- Cost of deterioration & obsolescence.
- Cost of stationery, postage, telephone & mobile
- Loss due to evaporation leakage & pilferage.

(3)

These two cost plays a vital role in minimization of cost of product. The quantity to be ordered should be such which minimizes the carrying & ordering costs. The exact quantity to be ordered at a time so as to achieve this objective is known as EOQ or ROQ or ELS. The EOQ technique can be determined by

- (a) TABULAR FORM
- (b) Formula Method
- (c) Graphical Method

The formula method is familiar with every discussion. Tabular & Graphical method take time to understand & teach. Let first be started the formula method.

The following formula used for optimum quantity

$$EOQ = \sqrt{\frac{2AO}{C}}$$

where = A = Annual consumption or demand of quantity
O = ordering cost / order
C = carrying ~~order~~ cost per unit per annum.

Let. an example.

Q 1. FIND EOQ

Annual demand = 16000 units

Cost of placing order Rs 18

Cost of carrying 20% of average inventory

Price of one unit of material X = ₹ 1

Attention student here, $A = 16000$

$$O = ₹ 18$$

$$C = 20\% \text{ of } ₹ 1$$

We will put the items in
this formula.

$$EOQ = \sqrt{\frac{2AO}{C}}$$

$$\therefore = \sqrt{\frac{2 \times 16000 \times 18}{\left(1 \times \frac{20}{100}\right)}}$$

$$\sqrt{\frac{2 \times 16000 \times 18}{0.20}}$$

$$= 1700 \text{ units}$$

this is very optimal unit
to be purchase where the
O & C are reduced

In my experience if $O = C$

This point is minimal & start to purchase
at this ~~purchase~~ price.

BEHAVIOUR OF THIS MODEL can be
discussed in the next class.