

4) Materials Requirement Planning System -

This order system starts at its forecasted sales demand and then will work in a backwards like system where it will check to see if they have the stock to meet the demand. If they do not have the required inventory levels they will view what resources they need, which could range to raw materials or machinery, and they will order them in to start production. It is usually a computer software package that runs this system.

- + This system only buys raw materials, products etc when needed. Saves money.
- + It also reduces inventory levels which will reduce the holding costs.
- Suppliers may not be able to supply their products when needed
- An unfortunate event could occur, for example supplies being transported by lorry, the lorry could crash preventing the items reaching production point.

5) Just In Time System (J.I.T) -

This is where a product will arrive just in time to meet the forecasted sales demand of the companies. This relies on a strong supply chain and supplier relationship for the company as they will not be expecting to hold much stock.

- + The companies holding cost will be very low as it is always ordering items when they are needed.
- + Allows you to quickly respond to customer needs.
- Stock may not come in time
- If stock was to be lost it would provide very costly
- It requires a very strong relationship of suppliers to be able to make this system happen.
- The suppliers may increase the prices for the stock because they are the ones paying the holding costs

Cost of inventory = holding cost for average stock + cost of ordering stock

Example -

The EOQ for how many units should be ordered at a time is **258,000**

The Average stock level is always $X/2$ so in this case it is $258,000/2 = 129,000$

To find out the holding cost for average stock you do **average stock x holding cost**. In this example that works out to be $129,000 \times 0.5 = 64,500$

The cost of ordering stock is worked out by

(Demand/EOQ) (which equals total number of orders) **x order cost** for this example that works out to be $5,500,000/258,000 \times 3,000 = 66,000$

The total number of orders needed for the year works out to be $5,500,000/258,000 = 22$

So the cost of inventory must be $64,500 + 66,000 = 130,500$