Inventory Control Techniques

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What we need to know

- Here are all the points this PowerPoint aims to cover from the BME Y12 Syllabus.

- inventory control techniques
  - just-in-time
  - just-in-case

Understanding Inventory Management

Inventory Management is the practise of overseeing and controlling the ordering, storage and use of components that a firm uses in the production of the goods it sells.

Inventory is what raw materials and other inputs are used to produce goods as well as the goods which are available for sale

Aims of Inventory Management:

- To minimise investment in inventory by eliminating excessive/idle stock which have associated "holding costs"
- Ensure availability of the inventory that is in demand, to ensure uninterrupted production and to meet consumer demand
- Minimises the risk of losses on inventory due to obsolescence, deterioration etc
- Establish security measures to maintain necessary records for protecting against theft, leakage of inventory and determine a timely schedule to replenish stock
- Increase output and decrease cost per unit/good

Issues of Inventory Management and Need to keep Inventory

Why firms need to keep inventory

- To meet anticipated changes in supply and demand
- Safeguard against uncertainties or seasonality in demand or price increases

Issues to consider with Inventory Management

- The carrying cost of inventory – this refers to the cost firms incur over a period of time when they hold and store its inventory. Businesses use this figure to determine how profitable current inventory can be
- Inventory valuation – where firms provide a monetary value for the items which make up their inventory. Accurate valuation is essential for a firm's financial reporting
- Quality Management – control, assurance, improvement. All that good stuff!
- Physical storage and available space – self explanatory

Maximum stock levels exist to prevent unnecessary inventory piling up, while a minimum is maintained to prevent shortages.

Just-in-Time

Advantages	Disadvantages
- Investment in inventory is reduced, which results in investments better used elsewhere. Improves a firm's "cash flow position" - Stock holding costs is reduced, such as insurance, rent etc. - Less change of stock becoming obsolete - Less stock held, which reduces risk of damage or wastage - Ability to quickly respond to changes in consumer taste or demands (no piles of old inventory!!)	- Very high reliance on external suppliers. As failure to receive materials can lead to expensive delays - Administration, delivery and transaction costs increase as smaller deliveries occur - Small stock levels reduce opportunity to exploit economics of scale

- This is a stock-control system which is based on stock being delivered as they are needed in the production process.
- It involves lean manufacturing, which is the process of measuring and reducing inventory. It streamlines production by identifying and eliminating nonvalue adding activities
- A buffer stock is not required in this system
- Finished goods are dispatched as soon as they are produced, to eliminate storage costs

Just-in-case

- This is considered the **'traditional'** stock control system. It maintains a large amount of stock, in the case there are any supply or demand fluctuations, or unexpected run downs in the level of inventory.
- Buffer stock (also known as reserve stock) exists for raw materials, semi-finished goods and finished goods in case there are any issues. (i.e, late delivery, sudden increase in demand)

Advantages	Disadvantages
- Allows business to meet a sudden increase in demand, as there is always a buffer stock to absorb demand - Allows firm to take advantage of economies of scale, Discounts on bulk purchases of raw materials - Reduces downtime/inactivity which is caused by stock-out (no need to wait for delivery of stock from suppliers)	- High costs of storage involved (i.e. insurance and maintenance) - Stock can be susceptible to expiry/perishable, or theft - Can result in shortages in one type of stock and an excess of stock of another type

When either/or inventory type is used

- When firms are looking to reduce excess supply or introduce lean manufacturing, they prefer **just-in-time**
- Should there be a concern that firms run out of stock frequently due to sudden increases in demand, they may prefer **just-in-case**
- If a firm is concerned with cost, time and or wastage, they are more likely to prefer **just-in-time**