What is Inventory Management?

Worksheet

Inventory management monitors stock levels, tracks product movement, sets reorder points, and uses models like Economic Order Quantity (EOQ) to minimize total cost-holding costs plus ordering costs.

Questions

1. Which cost(s) does inventory management aim to minimize?

A) Only holding costs
B) Only ordering costs
C) Both holding costs and ordering costs
D) Only shipping costs

2. If a product has high demand volatility, what should inventory management do?

A) Reduce inventory to save space
B) Increase safety stock
C) Place smaller, more frequent orders
D) Eliminate all buffer stock

3. A supplier's lead time is 60 days. When should you reorder?

A) When inventory reaches zero
B) When inventory equals 60 days of expected demand
C) When inventory equals 7 days of expected demand
D) Never-order whenever you want

4. What is the bullwhip effect in inventory?

A) Inventory increases smoothly over time
B) Small demand changes cause large inventory swings upstream
C) All inventories decrease together
D) A physical damage to warehouses

5. A bookstore sells 50 books daily. Each order costs $100 to place and receive. Holding one book costs $2/year. How many books should be ordered at once?

6. A restaurant's soft drinks run out on Saturday nights. Current reorder point is too low. What should the restaurant do?

7. A manufacturer faces long supplier lead times (30 days). How should inventory strategy change?

8. Define: What is inventory management?

9. Define: What is the Economic Order Quantity (EOQ)?

10. Define: What is the reorder point?

Answer Key

1. C) Both holding costs and ordering costs - EOQ balances two competing costs: the cost to hold inventory (storage, capital) and the cost to place orders (processing, delivery).

2. B) Increase safety stock - Unpredictable demand requires higher safety stock to prevent stockouts.

3. B) When inventory equals 60 days of expected demand - You must order 60 days before you run out to account for the long lead time.

4. B) Small demand changes cause large inventory swings upstream - Small shifts in customer demand cause retailers to order more, which causes distributors to order even more, magnifying swings up the supply chain.

5. Using EOQ formula (simplified): EOQ (2 Annual Demand Order Cost Holding Cost per unit) Annual demand: 50 365 = 18,250 books EOQ (2 18,250 100 2) 1,825,000 1,352 books This minimizes total cost of ordering and holding.

6. Analyze demand: peak demand on weekends vs. weekdays Set higher reorder point: trigger ordering at 200 units (vs. current 100) Increase safety stock: hold extra buffer for uncertain demand Monitor: track daily sales, adjust forecast and reorder point quarterly

7. Lead time: need 30-day supply in stock at all times Reorder earlier: place order when 30 days' worth remains, not when stock is low Safety stock: increase buffer to cover supply delays Alternate suppliers: develop second source to reduce lead time risk

8. Controlling and optimizing stock levels to balance holding costs against stockout risk.

9. The order size that minimizes total cost (ordering + holding) by balancing order frequency and inventory levels.

10. The inventory level at which a new order is placed to ensure stock arrives before current supply runs out.