

8.5: The Role of Inventory in the Supply Chain

Managing inventory is one of the most important activities in a supply chain. Materials/goods are needed to provide manufacturers with the exact items that they need, in the right order, the right quality, delivered to the right location, and at the right time. Without all of this happening, it will be impossible to produce high quality goods and meet commitments to our customers. In addition, when goods are ready for shipment, the outbound supply chain needs to be organized in such a way that customers receive their requested orders in a cost-efficient manner.

Types of Inventory in the Supply Chain:

- Finished goods
- Raw materials
- Purchased components and operating supplies
- Work-in-process

Reasons for holding inventories:

Many reasons exist for keeping stocks of inventory. Some of the most common include:

- Manufacturers often build up inventories throughout the year because of seasonal demand.
 - An example is a Chocolate manufacturer who does not have the capacity to produce all the product that is needed for Christmas. They may begin building inventory in late spring in order to have enough on hand for orders in November and December.
- At the same time, a manufacturer may carry large amounts of inventory if they have some uncertainty or risk in their supply base. If suppliers have some risk of shortages, work stoppages, poor quality or late deliveries then more stock may be carried.
- Firms may be tempted by extra discounts often provided by purchasing large order sizes. Perhaps they may want to minimize transportation costs. There may also be some worry about future price increases that can cause organizations to build up their inventories.
- Retailers carry inventory to ensure that they do not run out of what they anticipate their customers may want. Distributors and retailers may try and balance the cost of keeping large inventories on hand with providing excellent customer service with few or no disappointed customers. However, it is often a challenge to anticipate exact customer behaviour.
- It is a challenge to synchronize incoming flow of materials and goods in order to meet production schedules and ship to customers as promised. As a result, inventory may be stored at many locations along the supply chain. This causes extra cost and inefficiencies for each organization.

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