Nakhon Pathom Rajabhat University

Chapter 6

Inventory Management

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Outlines

- Definition of inventory
- Definition of inventory management
- Importance of inventory management
- Types of inventory
- Inventory management processes
- Inventory costs
- Economic Order Quantity
- Exercises

Definition of inventory

Inventory is "the products, materials or supplies stored inside a warehouse before production, shipping or selling."

Penskelogistics, 2021

Definition of inventory management

Inventory management is “the process of ordering, storing, using, and selling a company's inventory. This includes the management of raw materials, components, and finished products, as well as warehousing and processing of such items.”

Adam Hayes, 2023

Importance of inventory management

✌ Repeat customers

You want your customers to keep coming back to you every time for their business needs. One way to make sure of that is to have everything they need every time they come.

✌ Accurate forecasting

Don’t plan based on sales last month, use robust inventory management to stay ahead of the demand curve by analyzing sales over time, who bought it, how much revenue is generated, and more. This will help you set proper reorder points and safety stock.

✌ Inventory turnover

Inventory is capital. Optimize your inventory turnover ratio by using some inventory management techniques and keeping less of your slow-moving products while increasing the stock of profitable products.

✌ Cutting costs

Having more inventory means more carrying costs, more security, and more labor. Using effective inventory management techniques can help in holding the right amount of stock, avoiding wasting money on slow-moving products, and investing money into areas of high return.

✌ Employee efficiency

Empower your employees to help you manage your inventory efficiently. Training employees to use robust inventory management and other tools to help them make better use of their time.

Brahminsolutions, 2023

Types of inventory

☞ Raw materials

Raw materials are any items used to manufacture finished products or the individual components that go into them. These can be produced or sourced by a business itself or purchased from a supplier.

Veeqo, 2013

☞ Work in Process (WIP)

Work in Process (WIP) again refers to retailers that manufacture their products. These are unfinished items or components currently in production, but not yet ready for sale.

Veeqo, 2013

Finished goods

Finished goods are products that are complete and ready for sale. These may have been manufactured by the business itself, or purchased as a whole, finished product from a supplier.

Veeqo, 2013

☞ Maintenance, Repair & Operations (MRO) goods

MRO goods are items used within the manufacture of products, but without directly making up any part of a finished product such as production & repair tools, uniforms & safety equipment, and cleaning supplies.

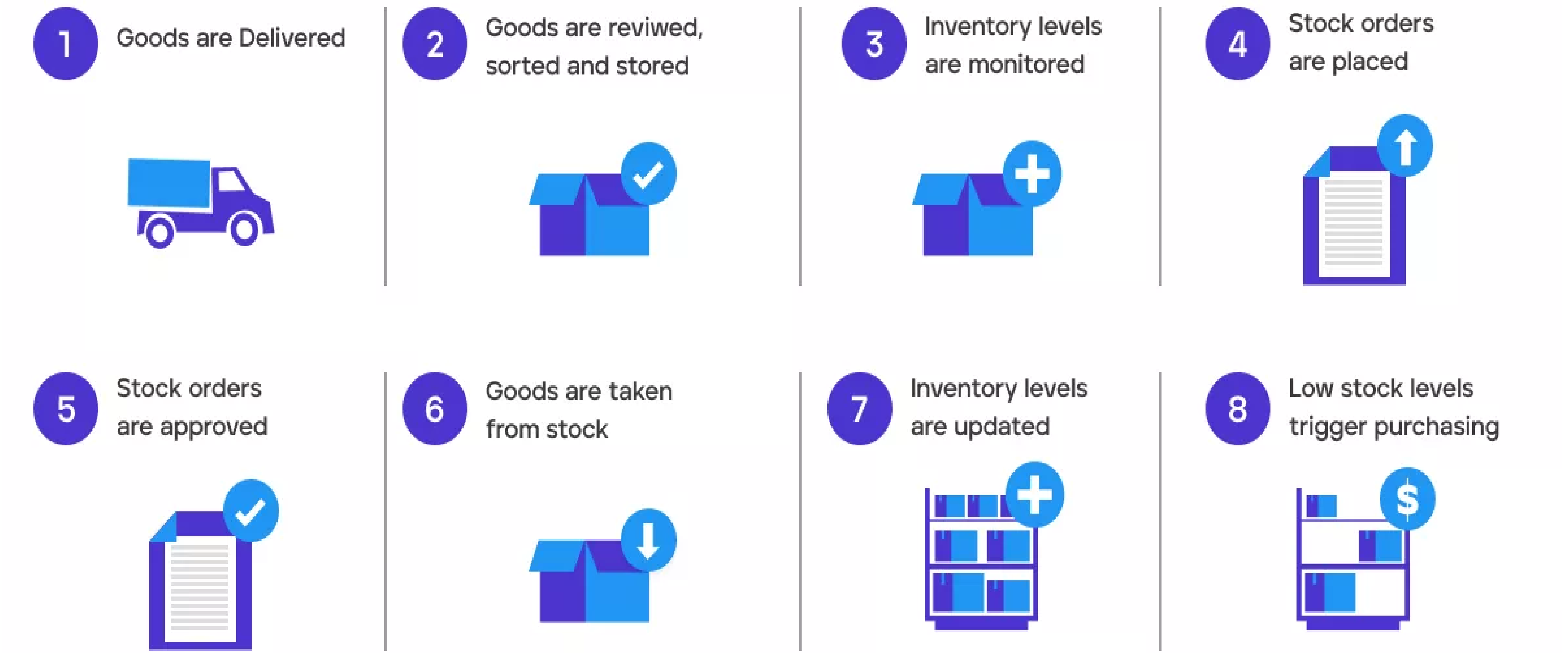
Veeqo, 2013

☞ Packing materials

Packing materials are anything you use for packing and protecting goods – either while in storage, or during shipping to customers such as bubble wrap, and a variety of boxes.

Veeqo, 2013

Inventory management processes



Lyle Del Vecchio, 2022

Inventory costs

Ordering costs

Ordering costs include payroll taxes, benefits and the wages of the procurement department, labor costs, etc. These costs are typically included in an overhead cost pool and allocated to the number of units produced in each period.

Carrying costs

This cost requires a certain amount of calculation to understand the extent of its impact on your P&L statement. Carrying costs refers to the amount of interest a business loses out on the unsold stock value lying in the warehouses.

Shortage costs

Shortage costs, also known as stock-out costs, occur when businesses become out of stock for various reasons.

Definition of Economic Order Quantity

Economic Order Quantity (EOQ) is the ideal quantity of units a company should purchase to meet demand while minimizing inventory costs such as ordering costs, carrying costs, and shortage costs.

Jason Fernando, Michael J Boyle, and Skylar Clarine, 2022

Advantages of Economic Order Quantity

Minimizes carrying costs

The EOQ model may suggest buying a larger quantity in fewer orders to take advantage of discount bulk buying and minimizing order costs. Alternatively, it may point to more orders of fewer items to minimize carrying costs if they are high and ordering costs are relatively low.

Specific to the business

The EOQ model is that it provides specific numbers particular to the business regarding how much inventory to hold when to re-order it, and how many items to order. This smooths out the re-stocking process and results in better customer service as inventory is available when needed.

Disadvantages of Economic Order Quantity

Complicated Math calculations

The EOQ model requires a good understanding of algebra, a disadvantage for small business owners lacking math skills. Additionally, effective EOQ models require detailed data to calculate several figures.

Sarita Harbour, 2019

Based on assumptions

The EOQ model assumes steady demand for a business product and immediate availability of items to be re-stocked. It does not account for seasonal or economic fluctuations. It assumes fixed costs of inventory units, ordering charges, and holding charges. This inventory model requires continuous monitoring of inventory levels.

Exercises Chapter 6

Question 1 : What is the meaning of inventory management ?

Question 2 : What are the types of inventory ?

Question 3 : What are the inventory management processes ?

Question 4 : What are the inventory costs ?

Question 5 : What is the meaning of Economic Order Quantity ?

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