



SNS College of Technology

Coimbatore - 35



19BAE711 – Working Capital Management

Unit III - Inventory Management

Presented by

Dr.V.Prabakaran
Design Thinker





Guest the topic

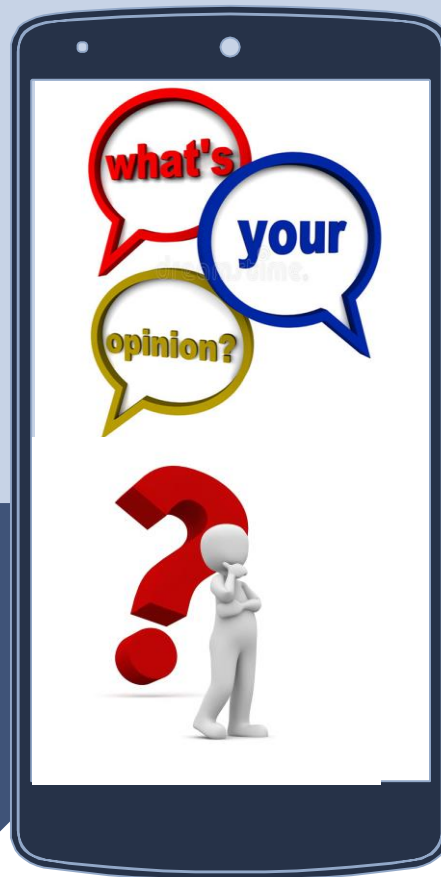




Recall

- Safety Stock
- Reasons to Keep Safety Stock





What is Safety stock?



Calculating Safety Stock

- The Basic Safety Stock Formula
- Lead-time Calculation
- Average-max Safety Stock Formula
- Heizer Rendors Formula
- Greasley's Formula
- Safety Stock with EOQ
- Inventory Position Safety Stock Formula





The Basic Safety Stock Formula

- The simplest method to calculate safety stock is to decide how many days of inventory you would like to have available on hand and multiply that by the number of daily products sold.
- $\text{Safety stock} = (\text{number of stock sold per day}) \times (\text{days' worth of stock on hand})$
- E.g: $(100 \text{ widgets/day}) \times (10 \text{ days}) = 1000 \text{ widgets in safety stock}$



Lead-time Calculation

- The lead-time calculation is the average amount of inventory sold per day multiplied by the product's average lead time in days.
- $\text{Safety stock} = \text{Average daily usage} \times \text{lead-time (days)}$



Average-max Safety Stock Formula



- Safety stock = (Max. daily usage x Max. lead-time in days) – (Avg. daily usage x Avg. lead-times in days)
- This formula is best suited for retailers when their products have short lead times, as it doesn't account for long lead-times variables.



Heizer Renders Formula



- Safety stock = Z-score (Daily usage) x Standard deviation of lead-time
- Z-score is your desired service factor, and the standard deviation of lead time is the frequency by which the average lead time differs from the actual lead time.
- This formula is ideal when there are significant variations in the supply from your vendors' end.



Greasley's Formula



- $\text{Safety stock} = \text{Avg. Demand} \times \text{Standard deviation of lead time} \times \text{Z-score}$
- Unlike the Heizer Render formula, Greasley's method takes demand fluctuations into account. It's deemed a more accurate way of calculating safety stock.



Safety Stock with EOQ

- Economic order quantity (EOQ) is the ideal amount of stock retailers should purchase to minimize costs such as ordering, transportation, and storage.
- $\text{Safety stock (EOQ)} = \sqrt{D \times S / H}$
- “D” is the demand for the stock. “S” is order costs. “H” is the holding costs per item.



Inventory Position Safety Stock Formula



- Safety stock = Inventory on hand – Backorders + Inventory currently on order
- This formula helps retailers monitor net inventory while the resulting value should be higher than the reorder point to avoid running out of stock.



Summary

- The Basic Safety Stock Formula
- Lead-time Calculation
- Average-max Safety Stock Formula
- Heizer Renders Formula
- Greasley's Formula
- Safety Stock with EOQ
- Inventory Position Safety Stock Formula

SUMMARY





Assessment

Unlike the Heizer Render formula, Greasley's method takes demand fluctuations into account

True / False

Ans: True





Reference

- <https://www.zoho.com/inventory/guides/what-is-safety-stock.html>
- <https://www.netsuite.com/portal/resource/articles/inventory-management/safety-stock.shtml>
- <https://retalon.com/blog/what-is-safety-stock>
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