

STURDIVANT SOUND SYSTEMS

QUESTION 1

Compute the optimal order quantity of DVD players

- 1. Inventory values
- 2. Annual demand
- 3. Procurement costs
- 4. Holding cost
- 5. Annual carrying cost
- 6. Economic order quantity
- 7. Order quantity
- 8. Annual carrying cost
- 9. Annual procurement cost
- 10. Total annual cost



INTRODUCTION

- 1. Standardize the system requirements and sell based on this for both local and wide.
- 2. Not all the parts of the sound system are produced in the country (the 50% part).
- 3. DVD players used in the classroom system are purchased from Paris. Each batch of 100 units is shipped.
- 4. Standardize the system for the 50% which is a purchase quantity of 100 units and carry a stock.
- 5. The company's annual requirements are 1000 units.

TYPE OF SALES	PRICE
Cash	\$8 per unit
Procurement costs	\$30 per order
Inventory carrying costs	\$1 per unit

QUESTION 2

Determine the appropriate reorder point (in units)!

Order point = Demand during lead time + safety stock

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QUESTION 3

Check the following for the appropriate reorder point to avoid stockouts:

- 1. Demand during lead time
- 2. Safety stock
- 3. Order point
- 4. Reorder point
- 5. Inventory level
- 6. Inventory level
- 7. Inventory level
- 8. Inventory level
- 9. Inventory level
- 10. Inventory level

QUESTION 4

Should procurement costs be considered a linear function of the number of orders?



CONCLUSION

MUSIC

1. The sound system is a complex system that requires a lot of attention and detail.

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4. The sound system is a complex system that requires a lot of attention and detail.

5. The sound system is a complex system that requires a lot of attention and detail.

Thank You

GROUP MEMBERS

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- Ma Xiao Li 61214532
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- Syarifah Aminah 6121578
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- 2. Annual demand
- 3. Procurement costs
- 4. Holding cost
- 5. Annual carrying cost
- 6. Economic order quantity
- 7. Order quantity
- 8. Annual carrying cost



INTRODUCTION

- 1. Standardize the product specifications and sell based on price for both local and wide.
- 2. Not all the parts of the sound system are produced in the country (the 50% part).
- 3. DVD players used in the classroom system are purchased from Paris, Cambodia, and Canada, like Singapore.
- 4. Standardize the system for the 50% client is a purchase quantity for DVD players and other needs.
- 5. The company's annual requirements: 1000 DVD players.

TYPE OF SALES	PRICE
Cash	\$8 per unit
Procurement costs	\$20 per order
Inventory carrying costs	\$1 per unit

QUESTION 2

Determine the appropriate reorder point (in units) if:
 Order point = Demand during lead time + safety stock
 Safety stock = 1.65 * standard deviation of demand during lead time
 Reorder point = 28 X 15 = 420 units

QUESTION 3

Check the following for the appropriate order quantity to avoid stockouts:

- 1. Order quantity
- 2. Annual demand
- 3. Procurement costs
- 4. Holding cost
- 5. Annual carrying cost
- 6. Economic order quantity
- 7. Order quantity
- 8. Annual carrying cost

QUESTION 4

Should procurement costs be considered a linear function of the number of orders?



CONCLUSION

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Thank You

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INTRODUCTION



Sturdivant Sound Systems manufactures and sells sound systems for both home and auto.



Most of the parts of the sound systems are produced in the Rochester, New York, plant.



DVD players used in the Sturdivant systems are purchased from Morris Electronics of Concord, New Hampshire.



Sturdivant purchasing agent Mary Kim submits a purchase requisition for DVD players once every 4 weeks.



The company's annual requirements total 5,000 units.

TYPE OF COST	COST
Cost	\$60 per unit
Procurement costs	\$20 per order
Inventory carrying costs	\$6 per unit



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TYPE OF COST

COST

Cost

\$60 per unit

Procurement costs

\$20 per order

Inventory carrying costs

\$6 per unit

QUESTION 1

Compute the optimal order quantity of DVD players

- Annual demand = 5,000 units
- Ordering costs = \$20 per order
- Holding costs = \$6 per unit per year

EOQ is calculated below:

$$Q = \sqrt{\frac{2DS}{H}} = \sqrt{\frac{2 \times 5,000 \times 20}{6}} = 182.5, \text{ or } 183 \text{ units}$$

Calculation of total costs:

- Number of orders = 52 weeks / 4 weeks
= 13 orders
- Quantity per order = 5,000 units / 13 orders
= 385 units (rounding)
- Average inventory = 385 units / 2
= 193 units (rounding)

$$\text{Ordering costs} = \$20 \times 5,000 / 385 \\ = \$260$$

$$\text{Purchase cost} = \$60 \times 5,000 \text{ units} \\ = \$300,000$$

$$\text{Carrying costs} = \$6 \times 193 \text{ units} \\ = \$1,158$$

Total costs = Ordering cost + Holding cost + Purchase cost

$$= \$260 + \$1,158 + \$300,000 \\ = \$301,418$$





Annual demand = 5,000 units



Ordering costs = \$20 per order



Holding costs = \$6 per unit per year



EOQ is calculated below:

$$Q = \sqrt{\frac{2DS}{H}} = \sqrt{\frac{2 \times 5,000 \times 20}{6}} = 182.5, \text{ or } 183 \text{ units}$$