

Inventory Management III

EOQ Notes & Some Extensions

Lecture 6
ESD.260 Fall 2003

Caplice

Assumptions: Basic EOQ Model

- ◆ Demand
 - Constant vs Variable
 - Known vs Random
 - Continuous vs Discrete
- ◆ Lead time
 - Instantaneous
 - Constant or Variable (deterministic/stochastic)
- ◆ Dependence of items
 - Independent
 - Correlated
 - Indentured
- ◆ Review Time
 - Continuous vs Periodic
- ◆ Number of Echelons
 - One vs Many
- ◆ Capacity / Resources
 - Unlimited vs Limited
- ◆ Discounts
 - None
 - All Units or Incremental
- ◆ Excess Demand
 - None
 - All orders are backordered
 - Lost orders
 - Substitution
- ◆ Perishability
 - None
 - Uniform with time
- ◆ Planning Horizon
 - Single Period
 - Finite Period
 - Infinite
- ◆ Number of Items
 - One
 - Many

Managing Multiple Locations

$$D = \sum_{i=1}^n d_i \quad ; \quad d_i = \frac{D}{n}$$

$$Q^* = \sqrt{\frac{2DC_o}{C_h C_p}} \quad ; \quad q_i^* = \sqrt{\frac{2d_i C_o}{C_h C_p}}$$

$$\sum_{i=1}^n q_i^* = \sqrt{n} Q^*$$