WAREHOUSE MANAGEMENT

BA4055

UNIT 1

UNIT - I INTRODUCTION WAREHOUSING 9

Introduction Warehousing – Basic Warehousing Decisions – Warehouse Operations – Types of Warehouses – Functions – Centralized & Decentralized – S rage Systems – Warehousing Cost Analysis – Warehouse Layout – Characteristics if Ideal Warehouse

UNIT - II INVENTORY MANAGEMENT 9

Inventory: Basic Concepts – Role in Supply Chain – Role in Competitive Strategy – Independent Demand Systems – Dependent Demand Systems – Functions – Types _ Cost – Need for Inventory –Just in Time

UNIT - III INVENTORY CONTROL 9

Inventory Control – ABC Inventory Control – Multi-Echelon Inventory Systems – Distribution Requirement Planning – Bull Whip Effect – Using WMS for Managing Warehousing Operations

UNIT - IV MATERIALS HANDLING 9

Principles and Performance Measures Of Material Handling Systems – Fundamentals of Material Handling – Various Types of Material Handling Equipments – Types of Conveyors – Refrigerated Warehouses- Cold Chain- Agri SCM

UNIT - V MODERN WAREHOUSING METHODS 9

Modern Warehousing – Au mated S rage & Retrieval Systems & their Operations – Bar Coding Technology & Applications in Logistics Industry – RFID Technology & Applications – Advantages ofRFID

TOTAL: 45 PERIODS

COURSE OUTCOMES:

At the end of the course, the students will be able to get complete insight in to warehouse concepts,various inventory control techniques and application of inventory management in supply chain.

TEXT BOOKS:

1. Vinod.V.Sople, Logistics Management, Pearson Education, 2004.
2. Arnold, Introduction Materials Management, Pearson Education, 2009.

REFERENCES:

1. Frazelle, World Class Warehousing & Material Handling, Tata McGraw-Hill, 2008

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Introduction Warehousing – Basic Warehousing Decisions – Warehouse Operations – Types of Warehouses – Functions – Centralized & Decentralized – S rage Systems – Warehousing Cost Analysis – Warehouse Layout – Characteristics if Ideal Warehouse

DEFNITION OF WAREHOUSE

A warehouse is a commercial space vital in the supply chain that is used to store finished goods and raw materials and is widely used in industries such as manufacturing and distribution.

Warehouse management is an important function of a supply chain management. The unit discussed about the basic concepts and functions of warehouse management. The unit also discussed about the key problems and issues in receiving processes. The term warehouse is used to define a location where the inventory is stored. The key inventory items include products that a business sells or manufacturers and in many cases can include materials and tools that are used in production processes. When a business has a warehouse management system, that business has implemented a workflow or set of steps that must be taken when inventory items are received, shipped, or deployed to other locations. This system can also be used to track the count and health of various items, thereby allowing warehouse managers to determine when to restock, repair, and replace items. Warehouse is an important part of supply chain management. The supply chain

includes all the stages a product passes through, starting from production and ending in introduction into a market. There are a number of factors that affect the effectiveness of a warehouse management system such as speed of production, levels of demand, and pricing. An inventory or warehouse manager generally is responsible for designing and optimizing a warehouse management system. He or she may be responsible for keeping up with new trends in technology that can improve efficiency of a system. A manager also might monitor areas where cost can be cut and determine solutions for improvement. It is common for a manager to incorporate asset tracking technology into a warehouse management system. Some of the most common types of asset tracking systems involve the scanning of barcodes or the reading of Radio Frequency Identification (RFID) tags. Each of these technologies allow warehouse workers to scan inventory items to read information about items on a computer monitor, such as date received, user notes, and contract information when the scanned items are leased

This kind of warehouse management system requires use of a primary database. Information regarding all items in a warehouse are stored in a database. Most warehouses include a number of employees and workstations. Larger businesses might need several warehouses that communicate with one another. For these reasons, a database normally is part of a Local Area Network (LAN). A LAN describes the servers, workstations, printers, and all other computer-related

components that interact in day-to-day operations in a contained geographical location. To create an efficient warehouse management system, a manager may decide how asset tracking technology is used. He or she can be responsible for determining which information belongs in a database and which style of notation employees should use when updating files. Managers periodically train and assess workers in using a system.

BASIC WAREHOUSING DECISIONS

Warehouse decisions are important and require close attention in supply chain network. It involves a number of important decisions, i.e. ownership decision; feasible locations for the warehouses; optimal number and capacity of the warehouses; size of the warehouses; and finally internal warehouse management.

DECISION MAKING HIERARCHY

- Corporate & Business Strategies
- Business Strategies
- Warehousing Policies
- Warehousing Decisions

WAREHOUSING POLICIES

Factors effecting the warehousing policy:

- Industry

- Firm's philosophy
- Capital availability
- Product characteristics
- Economic conditions
- Competition
- Seasonality of demand
- Production process

TO OWN THE WAREHOUSE OR OUTSOURCING?

- Should the firm purchase or build its own warehouse (private warehouse),
- or should it rent space from a public warehouse (outsourcing)?
- **The factors affecting such decisions are:**

Cost Factors Variable cost Fixed cost Qualitative Factors Advantages and disadvantages of private warehousing. Advantages and disadvantages of public warehousing.

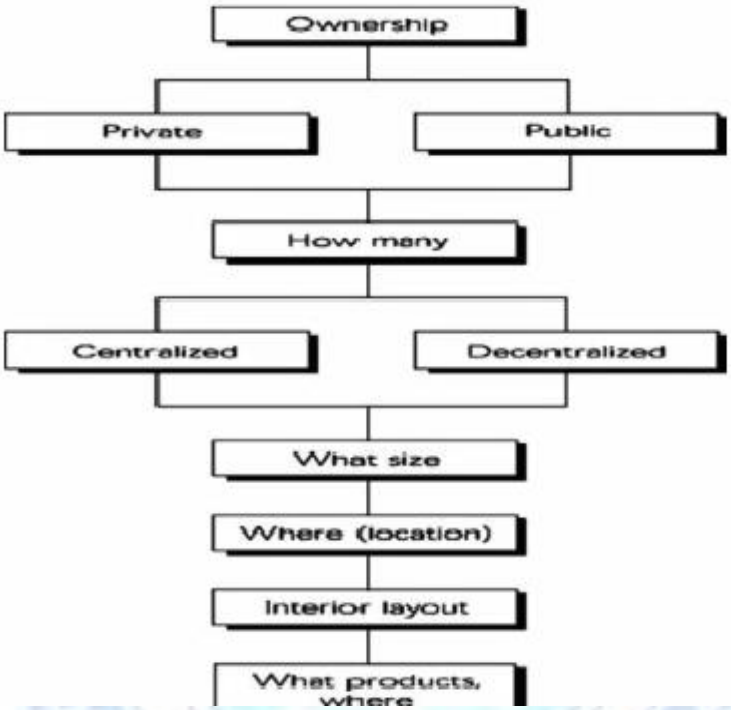
PRIVATE OR PUBLIC WAREHOUSE?

- Influential factors
- Cost trade-off
- Inventory cost
- Warehousing cost
- Transportation cost
- Cost of lost sales
- Customer service level

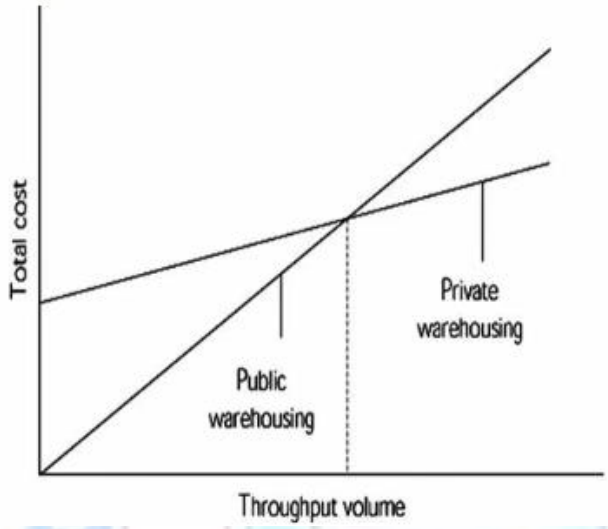
Basic Warehouse Decisions: *A Cost Trade-off Framework*

- Ownership
  - Public versus contract versus private
- Centralized or Decentralized Warehousing
  - How many
  - Location
  - Size
  - Layout
  - What products where

Basic Warehousing Decisions



The Ownership Decision



- Public warehousing costs mostly all variable.
- Private warehousing costs have a higher fixed cost component.
- Thus private warehousing virtually requires a high and constant volume.

The Ownership Decision

Factors to consider

- Throughput volume
  - (because of fixed costs)
- Stability of demand
- Density of market area to be served
- Security and control needs
- Customer service needs
- Multiple use needs of the firm

Affecting the Ownership Decision

TABLE 8–2 Firm Characteristics Affecting the Ownership Decision

Firm Characteristics	Private	Public
Throughput volume	High	Low
Demand variability	Stable	Fluctuating
Market density	High	Low
Special physical control	Yes	No
Customer service required	High	Low
Security requirements	High	Low
Multiple use needed	Yes	No