



Chapter 11

Global Supply Chain Procurement and Distribution

Operations Management - 6th Edition

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Lecture Outline

- ◆ Procurement
- ◆ E-Procurement
- ◆ Distribution
- ◆ Transportation
- ◆ The Global Supply Chain

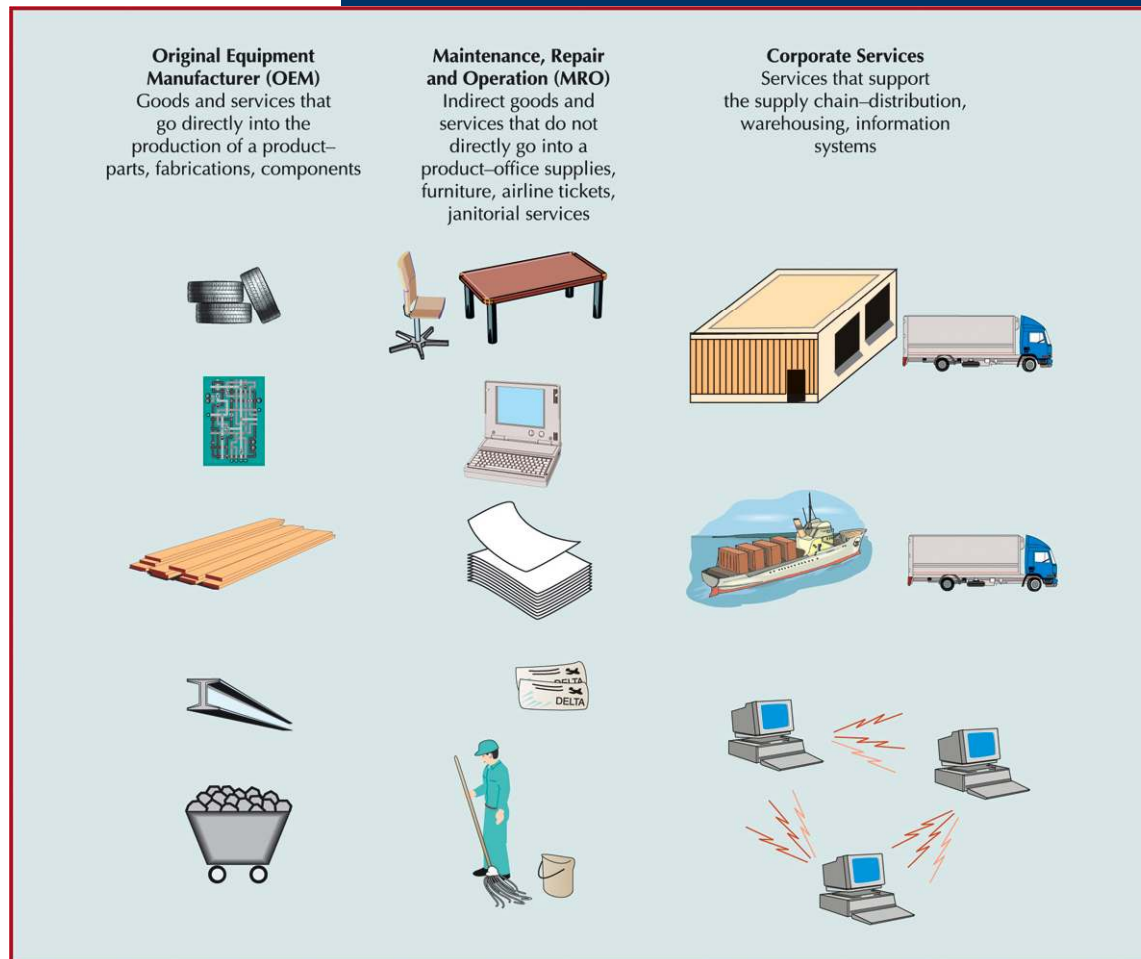
Procurement

- ◆ The purchase of goods and services from suppliers
- ◆ Cross enterprise teams
 - coordinate processes between a company and its supplier
- ◆ On-demand (direct-response) delivery
 - requires the supplier to deliver goods when demanded by the customer
- ◆ Continuous replenishment
 - supplying orders in a short period of time according to a predetermined schedule

Outsourcing

- ◆ Sourcing
 - selection of suppliers
- ◆ Outsourcing
 - purchase of goods and services from an outside supplier
- ◆ Core competencies
 - what a company does best
- ◆ Single sourcing
 - a company purchases goods and services from only a few (or one) suppliers

Categories of Goods and Services...





E-Procurement

- ◆ Direct purchase from suppliers over the Internet, by using software packages or through e-marketplaces, e-hubs, and trading exchanges
- ◆ Can streamline and speed up the purchase order and transaction process



E-Procurement (cont.)

- ◆ What can companies buy over the Internet?
 - Manufacturing inputs
 - the raw materials and components that go directly into the production process of the product
 - Operating inputs
 - maintenance, repair, and operation goods and services



E-Procurement (cont.)

- ◆ E-marketplaces (e-hubs)
 - Websites where companies and suppliers conduct business-to-business activities
- ◆ Reverse auction
 - process used by e-marketplaces for buyers to purchase items; company posts orders on the internet for suppliers to bid on

Distribution

- Encompasses all channels, processes, and functions, including warehousing and transportation, that a product passes on its way to final customer
- Order fulfillment
 - process of ensuring on-time delivery of an order
- Logistics
 - transportation and distribution of goods and services
- Driving force today is speed
- Particularly important for Internet dot-coms

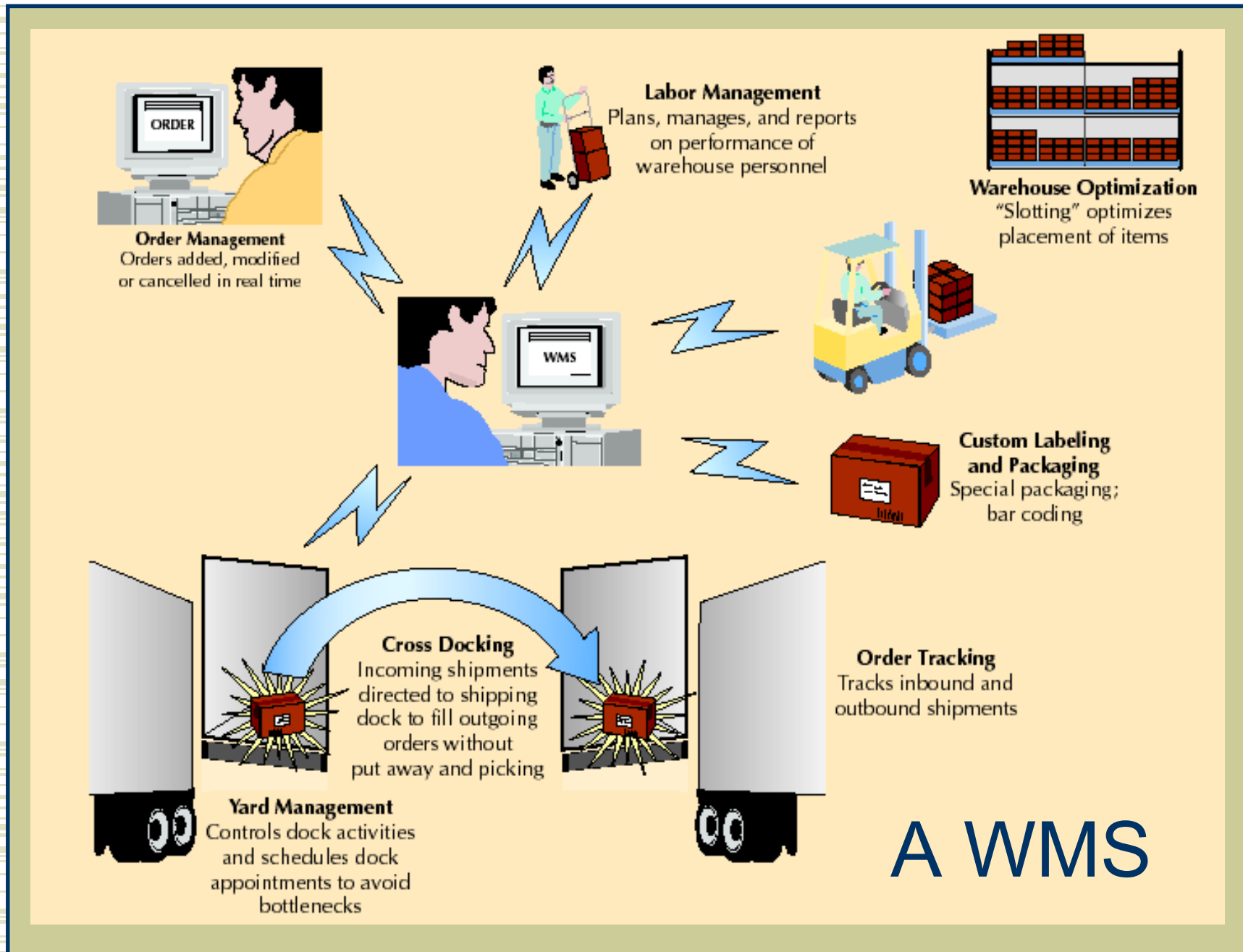
Distribution Centers (DC) and Warehousing

- DCs are some of the largest business facilities in the United States
- Trend is for more frequent orders in smaller quantities
- Flow-through facilities and automated material handling
- Postponement
 - final assembly and product configuration may be done at the DC



Warehouse Management Systems

- Highly automated system that runs day-to-day operations of a DC
- Controls item putaway, picking, packing, and shipping
- Features
 - transportation management
 - order management
 - yard management
 - labor management
 - warehouse optimization





Vendor-Managed Inventory

- Manufacturers generate orders, not distributors or retailers
- Stocking information is accessed using EDI
- A first step towards supply chain collaboration
- Increased speed, reduced errors, and improved service

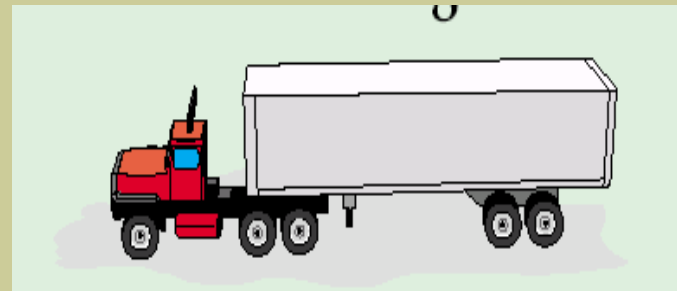
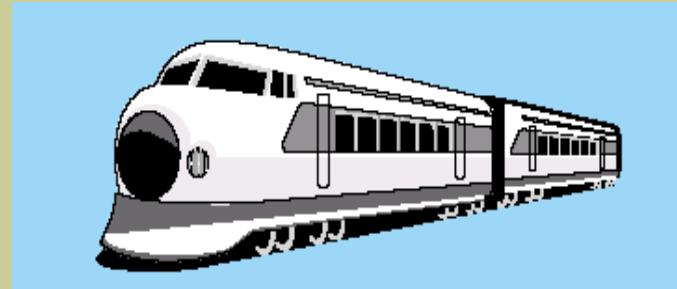


Collaborative Logistics and Distribution Outsourcing

- Collaborative planning, forecasting, and replenishment create greater economies of scale
- Internet-based exchange of data and information
- Significant decrease in inventory levels and costs and more efficient logistics
- Companies focus on core competencies

Transportation

- ◆ Rail
 - low-value, high-density, bulk products, raw materials, intermodal containers
 - not as economical for small loads, slower, less flexible than trucking
- ◆ Trucking
 - main mode of freight transport in U.S.
 - small loads, point-to-point service, flexible
 - More reliable, less damage than rails; more expensive than rails for long distance



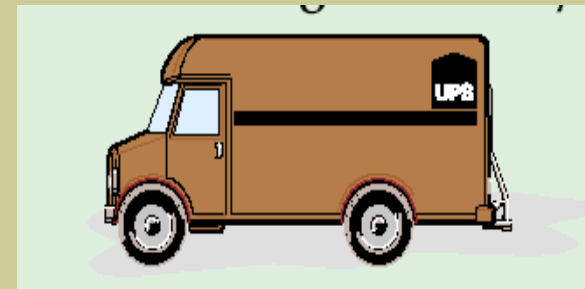
Transportation (cont.)

◆ Air

- most expensive and fastest, mode of freight transport
- lightweight, small packages <500 lbs
- high-value, perishable and critical goods
- less theft

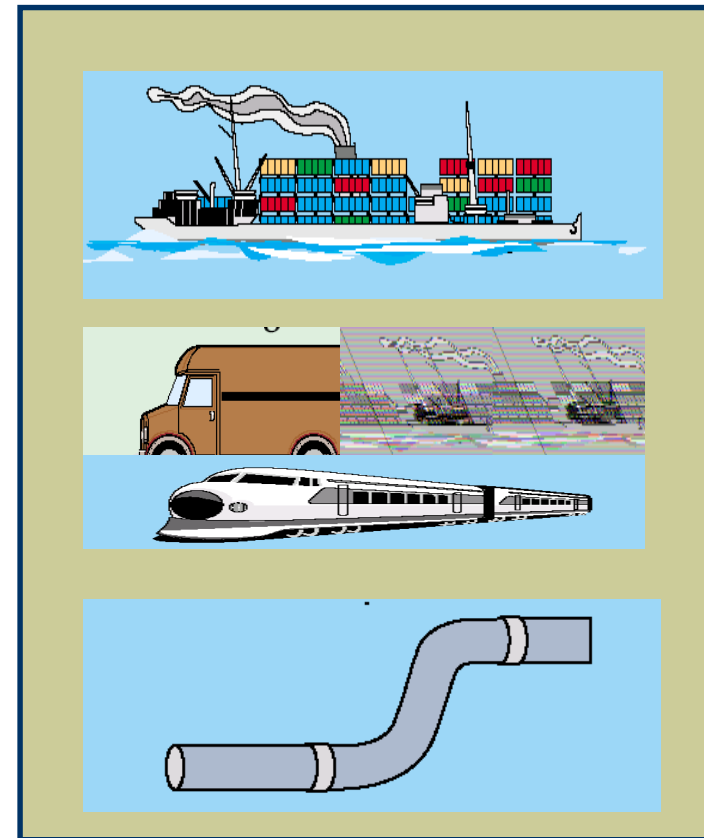
◆ Package Delivery

- small packages
- fast and reliable
- increased with e-Business
- primary shipping mode for Internet companies



Transportation (cont.)

- ◆ Water
 - low-cost shipping mode
 - primary means of international shipping
 - U.S. waterways
 - slowest shipping mode
- ◆ Intermodal
 - combines several modes of shipping—truck, water and rail
 - key component is containers
- ◆ Pipeline
 - transport oil and products in liquid form
 - high capital cost, economical use
 - long life and low operating cost





Internet Transportation Exchanges

- Bring together shippers and carriers
- Initial contact, negotiations, auctions
- Examples
 - www.nte.com
 - www.freightquote.com



Global Supply Chain

- International trade barriers have fallen
- New trade agreements
- To compete globally requires an effective supply chain
- Information technology is an “enabler” of global trade

Obstacles to Global Chain Transactions

- ◆ Increased documentation for invoices, cargo insurance, letters of credit, ocean bills of lading or air waybills, and inspections
- ◆ Ever changing regulations that vary from country to country that govern the import and export of goods
- ◆ Trade groups, tariffs, duties, and landing costs
- ◆ Limited shipping modes
- ◆ Differences in communication technology and availability



Obstacles to Global Chain Transactions (cont.)

- ◆ Different business practices as well as language barriers
- ◆ Government codes and reporting requirements that vary from country to country
- ◆ Numerous players, including forwarding agents, custom house brokers, financial institutions, insurance providers, multiple transportation carriers, and government agencies
- ◆ Since 9/11, numerous security regulations and requirements



Duties and Tariffs

- Proliferation of trade agreements
- Nations form trading groups
 - no tariffs or duties within group
 - charge uniform tariffs to nonmembers
- Member nations have a competitive advantage within the group
- Trade specialists
 - include freight forwarders, customs house brokers, export packers, and export management and trading companies

Duties and Tariffs (cont.)



Landed Cost

- ◆ Total cost of producing, storing, and transporting a product to the site of consumption or another port
- ◆ Value added tax (VAT)
 - an indirect tax assessed on the increase in value of a good at any stage of production process from raw material to final product
- ◆ Clicker shock
 - occurs when an order is placed with a company that does not have the capability to calculate landed cost

Web-based International Trade Logistic Systems

- ◆ International trade logistics web-based software systems reduce obstacles to global trade
 - convert language and currency
 - provide information on tariffs, duties, and customs processes
 - attach appropriate weights, measurements, and unit prices to individual products ordered over the Web
 - incorporate transportation costs and conversion rates
 - calculate shipping costs online while a company enters an order
 - track global shipments

Recent Trends in Globalization for U.S. Companies

- ◆ Two significant changes
 - passage of NAFTA
 - admission of China in WTO
- ◆ Mexico
 - cheap labor and relatively short shipping time
- ◆ China
 - cheaper labor and longer work week, but lengthy shipping time
 - Major supply chains have moved to China



China's Increasing Role in the Global Supply Chain

- ◆ World's premier sources of supply
- ◆ Abundance of low-wage labor
- ◆ World's fastest growing market
- ◆ Regulatory changes have liberalized its market
- ◆ Increased exporting of higher technology products



Models in Doing Business in China

- ◆ Employ local third-party trading agents
- ◆ Wholly-owned foreign enterprise
- ◆ Develop your own international procurement offices



Challenges Sourcing from China

- ◆ Getting reliable information is more difficult than in the U.S.
- ◆ Information technology is much less advanced and sophisticated than in the U.S.
- ◆ Work turnover rates among low-skilled workers is extremely high

Effects of 9/11 on Global Chains

- ◆ Increase security measures
 - added time to supply chain schedules
 - Increased supply chain costs
- ◆ 24 hours rules for “risk screening”
 - extended documentation
 - extend time by 3–4 days
- ◆ Inventory levels have increased 5%
- ◆ Other costs include:
 - new people, technologies, equipment, surveillance, communication, and security systems, and training necessary for screening at airports and seaports around the world



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