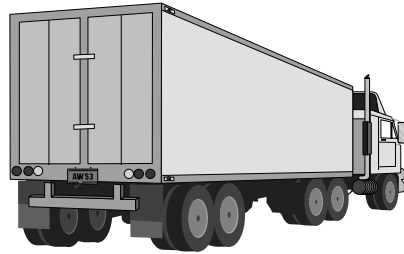


Chapter 4

The Outbound Logistics System



- Outbound Logistics Definitions and Process
- Customer Service
 - definitions
 - components
 - examples
- DRP

Outbound Logistics



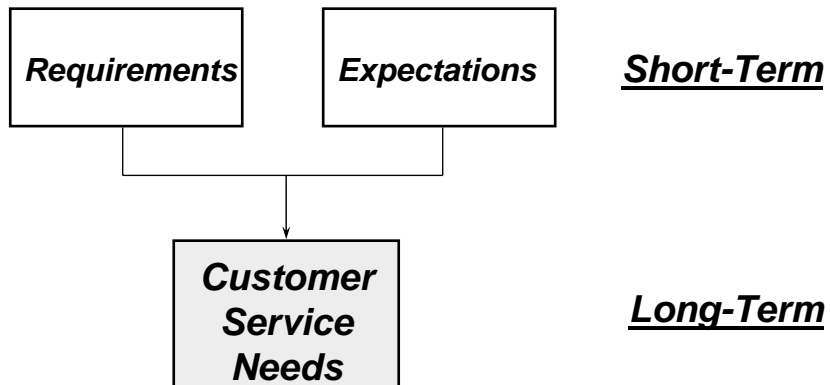
- Early attention after WWII in Physical Distribution
- Very similar to inbound, but often more complex and receive greater managerial attention
- Customer Service is a key component to success

What is Customer Service?

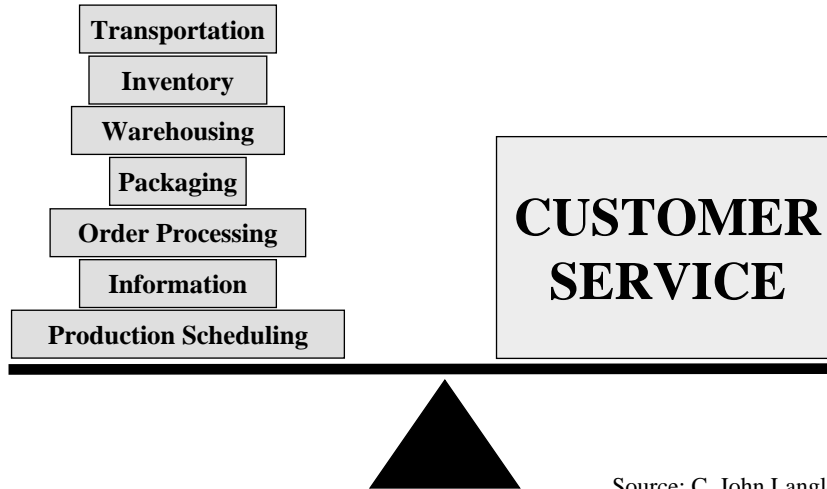
“Customer service is a process for providing significant value-added benefits to the supply chain in a cost-effective way.”

1988 CLM Study

Requirements/Expectations versus Customer Service Needs



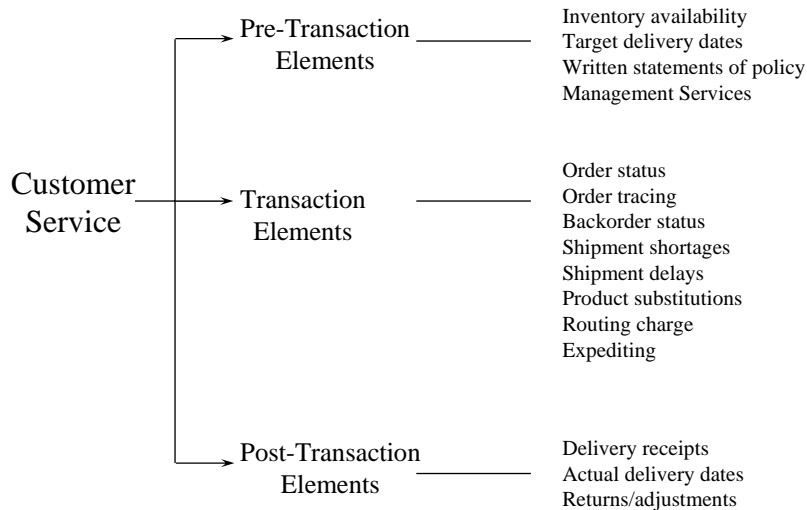
Net Impact of Logistics Must Create Customer Value



Customer Service Can Be Defined As:

- An activity that has to be managed such as order processing, invoicing, or handling customer complaints
- Performance measures such as the ability to ship complete within 48 hours 95% of the time
- A corporate philosophy whereby customer service is treated as an element of the total corporate philosophy rather than as an activity or a set of performance measures

Possible Measures of Customer Service Performance



Customer Service - Key Trends

- “Customer Service Mix”
- Key Element of the Marketing Mix
- Goals and Expectations are Accelerating
- Customer-Driven Improvement
- Total Order Cycle Perspective
- Impacts of Services on Sales
- Contractual-Driven Relationships

Customer Service Today

- “You won’t meet my expectations unless you exceed them.”
 - Customer Comment to
Tom Escott, President of Schneider Logistics



Customer Service “Mix”



Order Cycle Time

Logistics Operations Responsiveness

Logistics Systems Information

Post-Sale Customer Support

Elements of the Marketing Mix

	<u>1988</u>	<u>1990</u>	<u>% Change</u>
Product	33.3	32.7	-1.8
Price	29.9	28.8	-3.7
Customer service	22.4	24.9	
Advertising, selling, promotion	14.4	13.6	-5.5
Total	100.0	100.0	

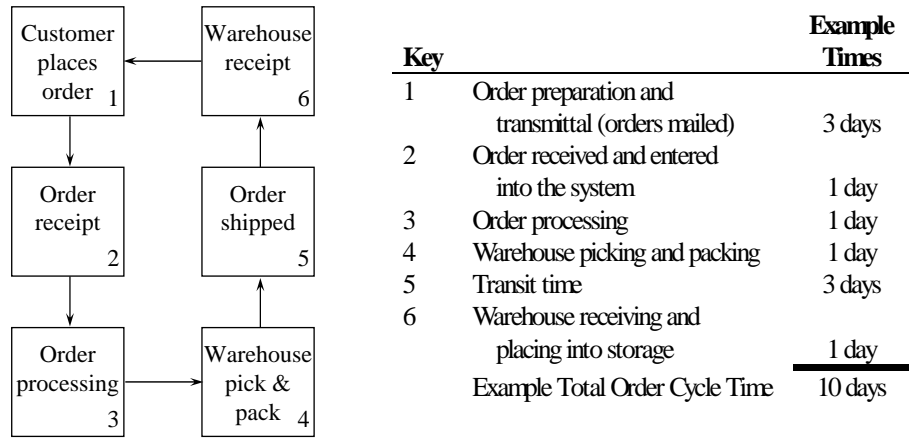
Trends in CS Performance

The Grocery Industry

Element	1995	2000
Product Availability	98%	99%
Order Cycle Time	9 Days	7 Days
Complete Orders Shipped	90%	94%
Accurate Invoices Provided	90%	93%
Damaged Products	1%	0.5%

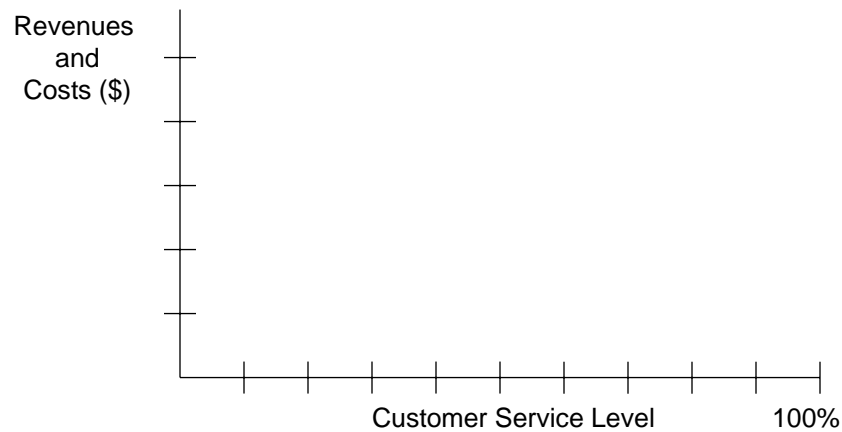
Sources: Grocery Manufacturers of American and A.T. Kearney, *Customer Service Data for Food Industry*, 1995, p.5.

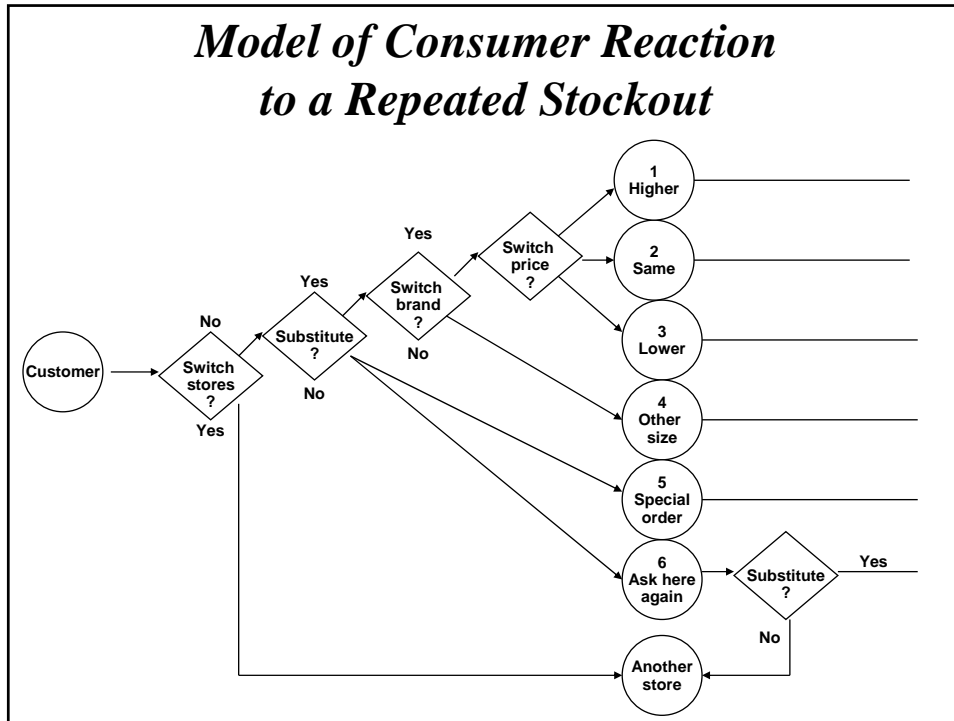
Total Order Cycle: A Customer's Perspective



Determining the Optimum Customer Service Policy

- 3 Research Approaches:

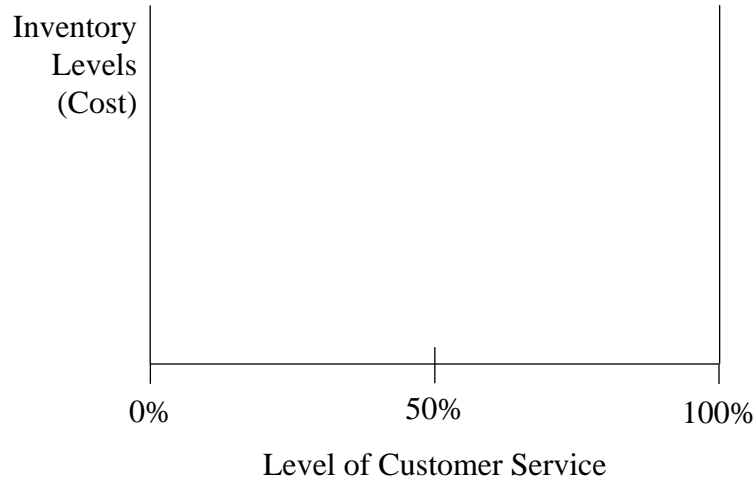




When a Stockout Occurs:

<u>Possible Outcomes</u>	<u>Cost</u>	<u>Prob.</u>	<u>Totals</u>
Backorder	\$15	.5	\$7.5
Lost Sale	\$20	.3	\$6.0
Lost Customer	\$100	.2	<u>\$20.0</u>
Expected Cost			\$33.5

Inventory vs. Customer Service



Customer Service Trends and Observations

- Expectations and Perceptions of Customer Service May Differ Between Suppliers and Customers
- Customer Service More Critical When:
 - Markets are competitive
 - Products are highly-substitutable
 - Time is of strategic significance
- Superior Customer Service Requires
 - Expert logistics management
 - Leveraging information technology
- Customer Service Being Included in Corporate Strategic Planning Processes

Customer Service Case Study *L.L. Bean, Inc.*

Mail Order Business

- Yearly sales in excess of \$300 million
- Current growth rate 25-30 percent
- 80,000 SKUs
- 2,000 product vendors

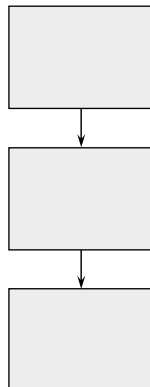
Product/Service Philosophy

- 100% guarantee
- “Treat your customers like human beings/ Provide superior service”
- Key results areas (KRAs)
 - product guarantee, in-stock, turnaround time, retail service, convenience, innovation, market standing (image)

Customer Service Case Study

FedEx®

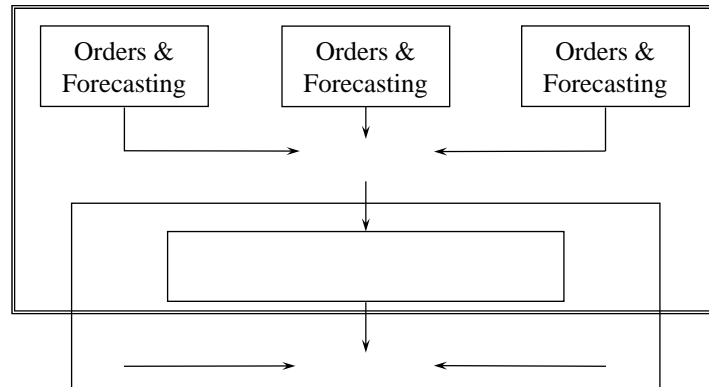
Commitment to philosophy



- CS as the product
- “Peace of mind” through customer information
- Diligent measurement of CS levels
- Innovative services:
 - Direct info exchanges
 - Parts Bank
 - medical kits
 - aircraft parts
 - computer/tele. equip.

Distribution Resource Planning (DRP)

- Application of MRP principles to Outbound Logistics
- a “push” system (similar to MRP)



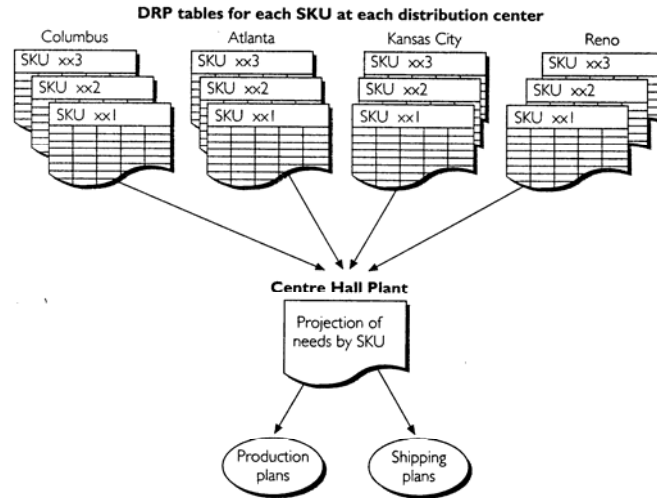
An Example of DRP

Chicken Noodle Soup

BOH = 4,314 Q=3,800 SS=1,956 LT=1

Week	Jan. 1	2	3	4	Feb. 5	6	7	8	Mar. 9
Forecast	974	974	974	974	989	1,002	1,002	1,002	1,061
Scheduled receipt	0	0	3,800	0	0	0	3,800	0	0
BOH-ending	3,340	2,366	5,192	4,218	3,229	2,227	5,025	4,023	2,962
Planned order	0	3,800	0	0	0	3,800	0	0	3,800
Actual order									

Combining DRP Tables



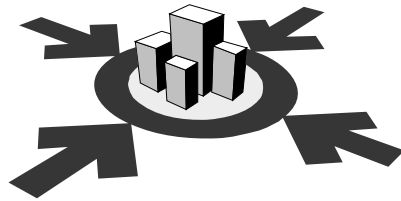
ADAPTED FROM: A.J. Stenger, "Distribution Resources Planning," *The Distribution Handbook* (New York: The Free Press, 1994).

Advanced DRP Approaches

- DRP II - combines MRP II and DRP
- DRP III - adds ABC accounting to DRP II

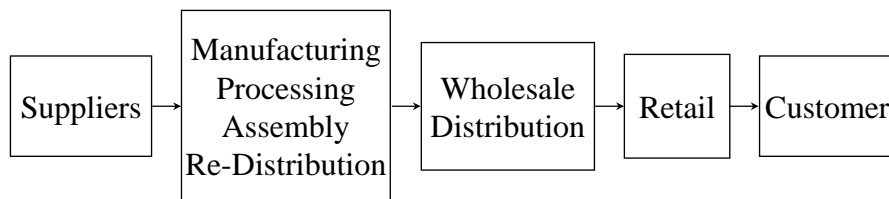
Chapter 4a

Channels of Distribution

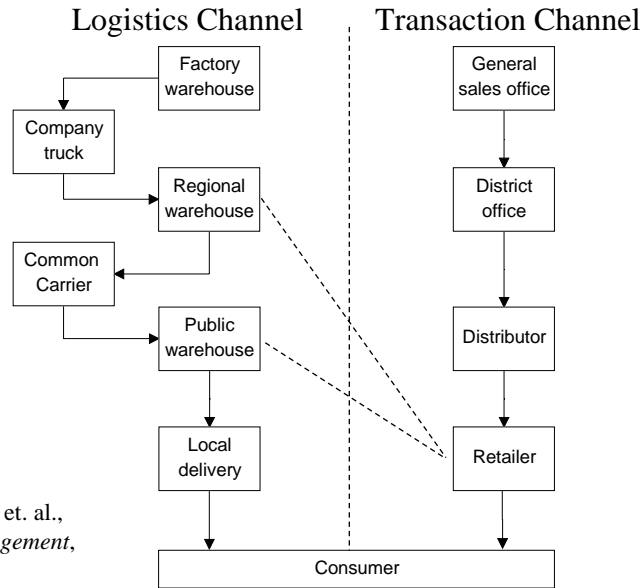


- Channel Systems
- Major Types of Channels
- Channel Intermediaries
- Channel Issues
- Example Channels

Channels of Distribution



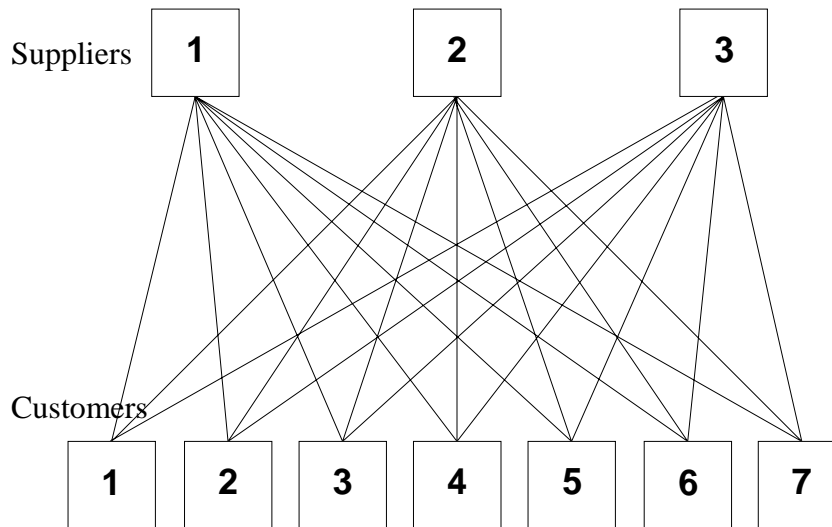
Distribution Channel Separation



Source: Bowersox, et. al.,
Logistics Management,
 1986, p. 91.

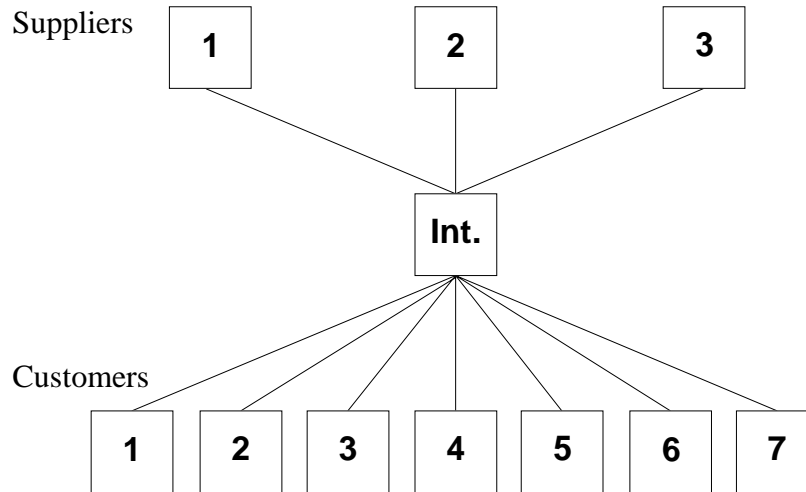
Example of Channel Structure

Direct Contact Between Suppliers and Customers



Example of Channel Structure

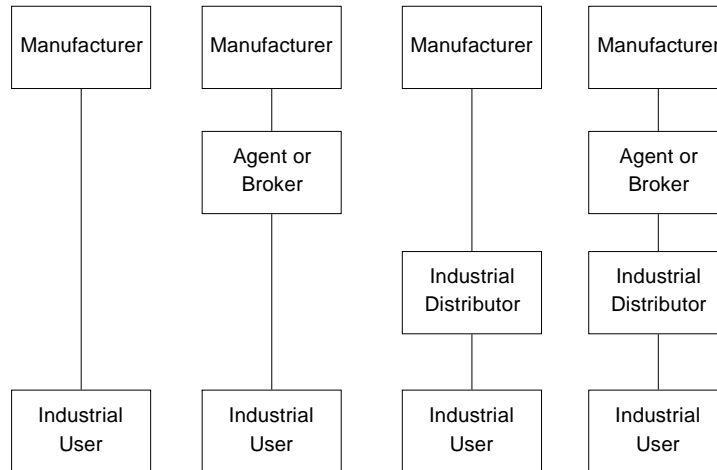
Distributing Through an Intermediary



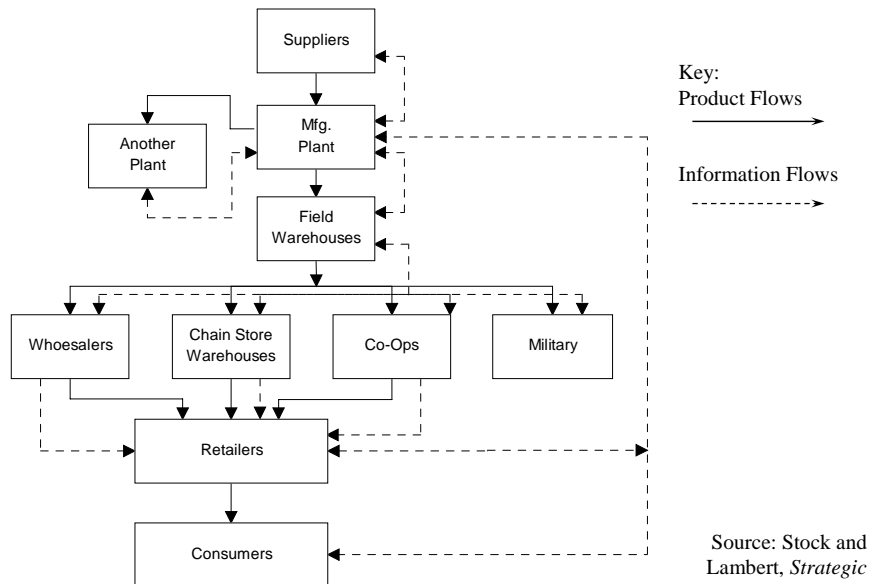
Channel Functions

- Increase Efficiency of Exchange Process
- Sorting Out Product
- Accumulating Product
- Produce Assortments
- Allocation of Product

Alternative Channels of Distribution for Industrial Goods



Distribution Channels - Grocery



Theory of Channel Structure

- - Reduces cost
 - Shifts risk of owning goods
- - Conduct value-added activities in advance of need
 - Involves the assuming of risk, rather than shifting it
 - Less popular today than postponement

Major Types of Channel Intermediaries

- Merchant wholesalers
- Manufacturer's sales branches
- Agents, brokers, and commission merchants

- Industrial
- Consumer

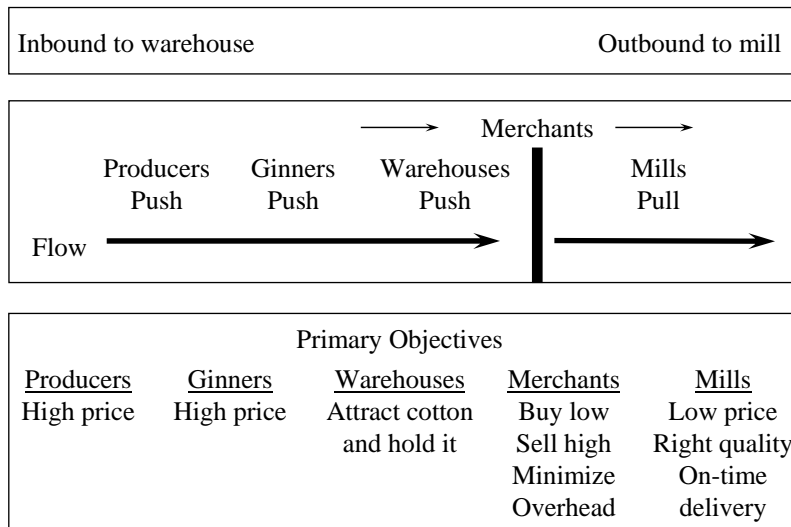
Channel Issues

- Intensity of Distribution
 - Intensive
 - Selective
 - Exclusive
- 3 C's of Channel Relationships
- Laws
 - Sherman Act (1890)
 - Clayton Act (1914)
 - Federal Trade Commission Act (1914)
 - Robinson-Patman Act (1936)

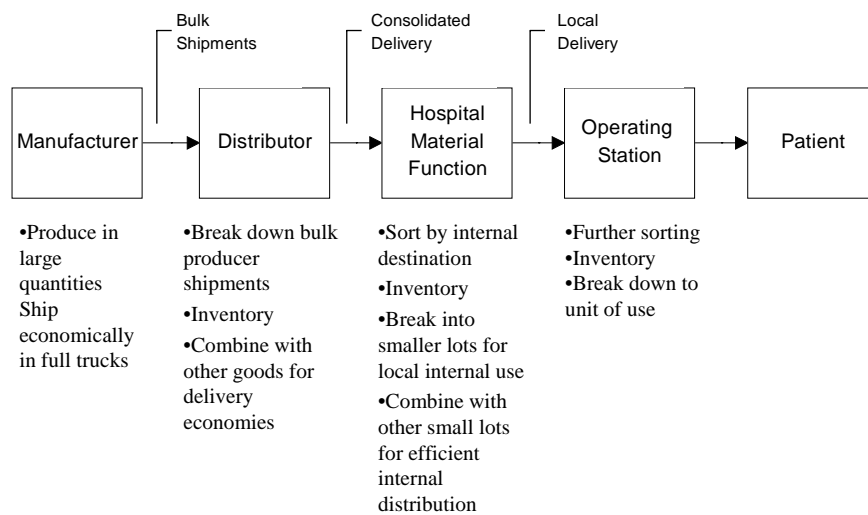
Channel Issues (cont.)

- Unfair/Illegal Practices
 - Dual distribution
 - Exclusive dealing
 - Full-line forcing
 - Tying agreements
 - Vertical integration

Channel of Cotton Flow



Supply Chain in Hospitals



End of Section #1



- Exam 1 will cover material to this point
- Study guide will be posted on the Internet
- Based on past experience: the test will be approximately 35 multiple choice questions.
- Remember the **FIRST PAGE** of the *Language of Logistics*.