
Contents

1. Logistics	7
1.1 What Logistics Is	7
1.2 Inbound and Outbound Logistics	9
1.3 Development of Logistics	12
Deregulation	12
Changes in consumer behavior.	13
Information technology advancement.	14
Growing power of retailers	15
Globalization of trade	15
1.4 Systems and Total Cost Approaches	16
1.5 Key Logistics Activities.	17
Summary	19
Questions	20
2. Supply Chain Management	21
2.1 SCM – Schools of Thought	21
Functional Chain Awareness School.	22
Linkage/Logistics School	22
Information School	23
Integration/Process School	23
2.2 Supply Chain vs. Demand Network	24
2.3 Global Supply Chain Forum Framework.	26
2.4 SCOR Framework	28
2.5 Supply Chain Management vs. Logistics	29
Summary	31
Questions	31

3. Customer Service Management	33
3.1 Customer Service – the Marketing and Logistics Interface	33
3.2 Customer Service Definition	34
3.3 Customer Service Elements	35
3.4 Customer Service Standards.	36
Availability	37
Operational Performance	38
Service Reliability	39
3.5 The Methods of Establishing Customer Service Level	40
Customer Reaction to Stockouts	40
Cost/Revenue Trade-offs	41
Customer Service ABC Analysis	42
Customer Profitability ABC Analysis	44
The Customer Service Audit	47
3.6 Customer Service vs. Customer Satisfaction and Loyalty	48
Service Recovery and Customer Satisfaction	49
Customer Loyalty	49
Summary	50
Questions	51
 4. Inventory Management	 53
4.1 Types of Inventory	53
4.2 Inventory Costs	57
4.3 Inventory Management Process and Concepts	60
ABC / XYZ Inventory Classification – determining what to order.	61
Re-order Point – determining when to order.	63
Economic Order Quantity (EOQ) – determining how much to order.	64
Safety Stock – determining how much to stock in case of either demand uncertainty and lead-time variability	66
Inventory Control	68
Materials Requirements Planning	68
Distribution Resource Planning	70
4.4 Inventory Performance Measurement	70
Summary	71
Questions	72

5. Warehousing and Materials Management. 73

5.1 Warehouse in the Logistics System 73

Consolidation and Break-bulk 73

Sorting 74

Seasonal Storage 76

Reverse Logistics Processing 77

Spot-stocking. 78

Full-line Stocking 78

Value-added Services 78

5.2 Basic Warehousing Decisions 79

Ownership Arrangements 79

Number of Warehouses in the Logistics System 80

Warehouse Size. 82

Warehouse Location. 82

Product-mix Analysis 85

Warehouse Design and Layout 86

Warehouse Management Systems (WMS) 87

Security 88

5.3 Fulfillment Center – a New Type of Warehouse 88

5.4 Warehouse Productivity Measurement. 90

Summary 90

Questions 91

6. Transportation 93

6.1 Transportation in the Logistics System. 93

6.2 Transportation Modes 94

Motor / Truck 94

Rail 95

Water 97

Air 100

Pipeline 100

Intermodal Transport 101

6.3 Transportation Economics Principles 102

Economy of Distance 102

Economy of Weight 103

Economy of Density. 104

6.4 Transportation Service Market	.105
6.5 Transportation Management	.109
Make-or-buy Decision	.109
Fleet Management	.110
Traffic Management	.110
Documentation	.111
Transportation Management Systems (TMS).	.112
Transportation and Sustainability	.112
6.6 Transportation Productivity Issues	.114
Summary	.114
Questions	.114