***Supply Chain Management – Logistics***

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| .🡨 Flow of Information 🡨

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| Supplier | 🡪 | Manufacturer | 🡪 | Distributor | 🡪 | Retailer | 🡪 | Customer |

🡪 Flow of Material 🡪. |

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| ***Distribution Configurations*** |  | ***Objectives of Supply Chain Management*** |
|  | Intermediate Shipping |  | Balance “High Service Levels” with “Low Costs”Emphasize “Continual Improvement” |
| Direct Shipment | WarehousingCross-dockingTransshipment |  |

**Distribution Configurations**

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|  | Direct Shipment |  |  | Traditional Warehousing |  |
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|  | Cross-Docking |  |  | Transshipment |  |
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|  |  | **Trade-off Considerations** |  |  |
|  |  | Direct Shipment vs. Intermediate Shipping |  |  |
|  |  | Centralized vs. Decentralized |  |  |
|  |  | Inventory & Transportation |  |  |
|  |  | Information & Decisions |  |  |
|  |  | Cost & Service Level |  |  |
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|  | Characteristics |  |

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| **Objectives of Supply Chain Management** |
| Balance “High Service Levels” with “Low Costs”Emphasize “Continual Improvement” |

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|  | ***Characteristics*** | ***Decisions &******Shipping*** | ***Risk******Pooling*** | ***Costs*** | ***Transportation******FTL/LTL&Last-Mile*** |  |
|  | ***Direct Shipment*** | Centralized | UpstreamDemand | No Warehouse Holding | ↑-FTL ↓-LTL↓-Last-Mile |  |
|  | ***Cross-docking*** | Centralized | UpstreamDemand | Lower Transportation | ↑-FTL ↓-LTL↓-Last-Mile |  |
|  | ***Warehousing*** | Decentralized | DownstreamInventory | Higher Holding | ↓-FTL ↑-LTL↑-Last-Mile |  |
|  | ***Transshipment*** | Decentralized | DownstreamInventory | Higher Transportation | ↓-FTL ↑-LTL↑-Last-Mile |  |
|  | FTL(Full TruckLoad), LTL(Less than TruckLoad) |  |
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**Distribution Configurations**

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|  | Direct Shipment |  |  | Traditional Warehousing |  |
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|  | Cross-Docking |  |  | Transshipment |  |
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|  | Strategies |  |

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| *Winners* | InventoryRisk Pooling | No WarehouseHolding Costs | No WarehouseCosts | High CustomerTechnical Support |
| **Warehousing** | X |  |  |  |
| **Cross-Docking** |  | X |  |  |
| **Direct Shipment** |  |  | X |  |
| **Transshipment** |  |  |  | X |

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| ***Description*** | **Advantages** | **Disadvantages** |
| **Warehousing** | Immediate Inventory | Limited Product Variety |
| **Cross-Docking** | Efficient TransportationNo Warehouse Holding Cost | Information Requirements & planning |
| **Direct Shipment** | No Warehouse CostSimplifies Logistics | Higher Transportation Costs |
| **Transshipment** | Product AvailabilityVirtual Customer Support | Distributor Coordination |

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| ***Drivers*** |
| Warehousing 🡪 Cross-Docking |
| Warehousing 🡪 Direct Shipment |
| Cross Docking 🡪 Direct Shipment |
| Distributed Inventory 🡪 Centralized Inventory |
| Distributed Information 🡪 Centralized Information |

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|  | Modes of Transportation |  |

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| *Mode* | **Distance** | **Size of Load** | **Overseas** | **Cost** | **Speed** |
| **Truck** | Short | Small | No | Medium | Medium |
| **Air** | Long | Small | Yes | High | High |
| **Rail** | Long | Large | No | Low | Low |
| **Water** | Long | Large | Yes | Very Low | Very Low |