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LOGISTICS & SUPPLY CHAIN MANAGEMENT

Subject Code – MBA301

By

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Module 2 – Strategic Logistics Plan



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Syllabus-

Operating objectives of logistics planning, Flow of logistics planning, Developing Logistic strategy, Logistics System Design and Administration, logistic environment assessment, Pricing in logistics, Warehousing– scope, primary functions. Efficient Warehouse Management System, Types of Warehouses. Logistics and Environment, Methods and tools facilitating International Logistics and its challenges.



Problem Scenario:

GreenMart Grocery's Urban Delivery Dilemma

GreenMart Grocery is a fast-growing e-grocery startup operating in a major Indian city. They have recently expanded rapidly, with daily online orders doubling in the last three months. However, the company is facing serious logistical challenges:

- Deliveries are often delayed, especially during monsoon season due to unpredictable weather and traffic jams.



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- High delivery costs are eating into profits, as GreenMart must frequently send out “emergency vans” for missed or delayed orders.
- Many deliveries involve only a few items, resulting in vehicles often running below capacity.
- Warehouses are located on city outskirts, causing inefficiencies in last-mile delivery.
- Their transport fleet is a mix of electric vehicles (with limited range) and conventional vans (which face city entry restrictions at peak hours).



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“How can GreenMart Grocery redesign its urban delivery logistics to improve on-time delivery rates, use resources efficiently, and reduce costs, especially during challenging weather and traffic conditions?”

Ans- micro-warehousing, collaborations, AI-driven route planning, dynamic scheduling, eco-friendly vehicle use, customer pick-up points



Strategic Logistical plan

“A strategic logistics plan is a unified, comprehensive, and integrated planning process designed to achieve competitive advantage through enhanced value and customer service, resulting in superior customer satisfaction by anticipating future demand for logistics services and managing resources across the supply chain”



Importance of Strategic Logistic Plan:

1. Cost Optimization
2. Improved Customer Service
3. Flexibility and Responsiveness
4. Risk Management
5. Competitive Advantage





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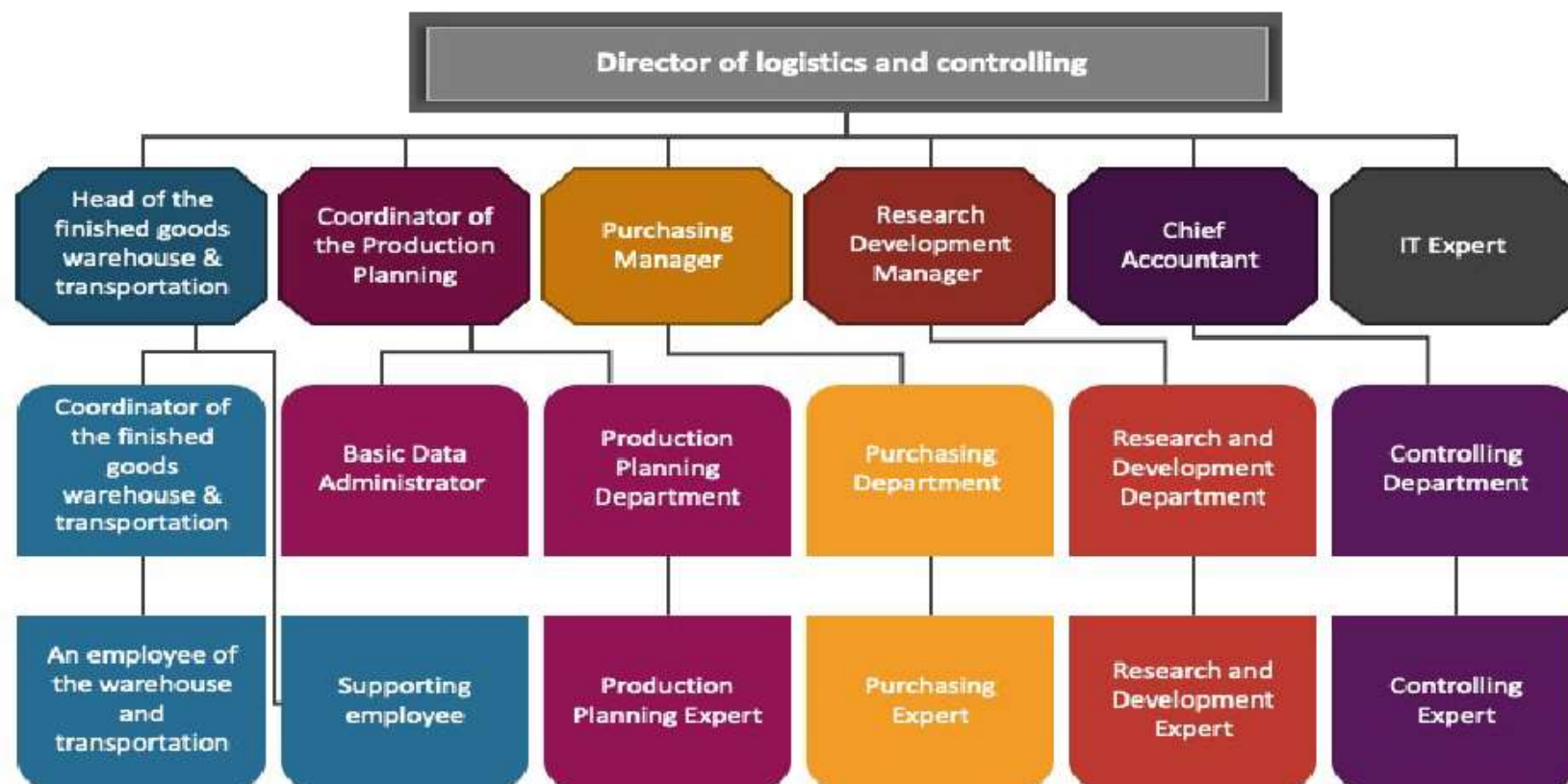
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- 6. Efficient Resource Utilization
- 7. Technology Integration
- 8. Environmental Sustainability
- 9. Continuous/continual Improvement



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LOGISTIC ORGANIZATION CHART





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Operating objectives of logistics planning

- Timely Delivery
- Order Accuracy
- Optimal Inventory Levels
- Cost Efficiency





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- Real-Time Visibility
- Communication and Collaboration
- Quality Management
- Adaptability and Flexibility
- Risk Management
- Customer Service Excellence





- Efficient Transportation
- Warehouse Efficiency
- Supplier and Vendor Performance
- Regulatory Compliance
- Sustainability Practices





10 Essentials Supply Chain KPIs

1

Availability rate

% of products available at a given time

2

Service rate

Out of 100 orders, how many orders are delivered on time

3

Stock rotation

Average number of days that the stock takes to run out

4

Forecast accuracy

How accurately a given forecast matches actual sales

5

Stock coverage

Period during which we can meet demand with the inventory

6

On-time delivery

% of orders in quantity delivered on time

7

Lead Time

The period between placing and receiving an order

8

Logistics costs

Average cost per item or % of turnover

9

Markdown rate

% stolen or missing value

10

Warehouse occupancy rate

% of available space





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- A Logistics Process Flow Chart illustrates the complete sequence of activities:
 - Supplier (Point of Origin)
 - Transportation
 - Warehousing
 - Inventory Management
 - Order Fulfillment
 - Distribution
 - End Customer (Point of Consumption)



Flow of logistics planning

- 1. Demand Forecasting
- 2. Inventory Planning
- 3. Procurement
- 4. Production Planning
- 5. Transportation Planning
- 6. Warehousing and Storage



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- 7. Order Fulfilment
- 8. Distribution Network Design
- 9. Reverse Logistics
- 10. Technology Integration
- 11. Risk Management
- 12. Continuous Improvement



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Developing Logistical Strategy

- 1. Understand Business Objectives
- 2. Conduct a SWOT Analysis
- 3. Define Logistics Objectives
- 4. Market Analysis and Demand Forecasting
- 5. Supplier and Vendor Management



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- 6. Transportation Strategy
- 7. Warehouse and Distribution Strategy
- 8. Information Technology Integration
- 9. Regulatory Compliance
- 10. Sustainability Initiatives



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- 11. Risk Management
- 12. Performance Measurement
- 13. Continuous Improvement
- 14. Customer Service Excellence
- 15. Documentation and Reporting



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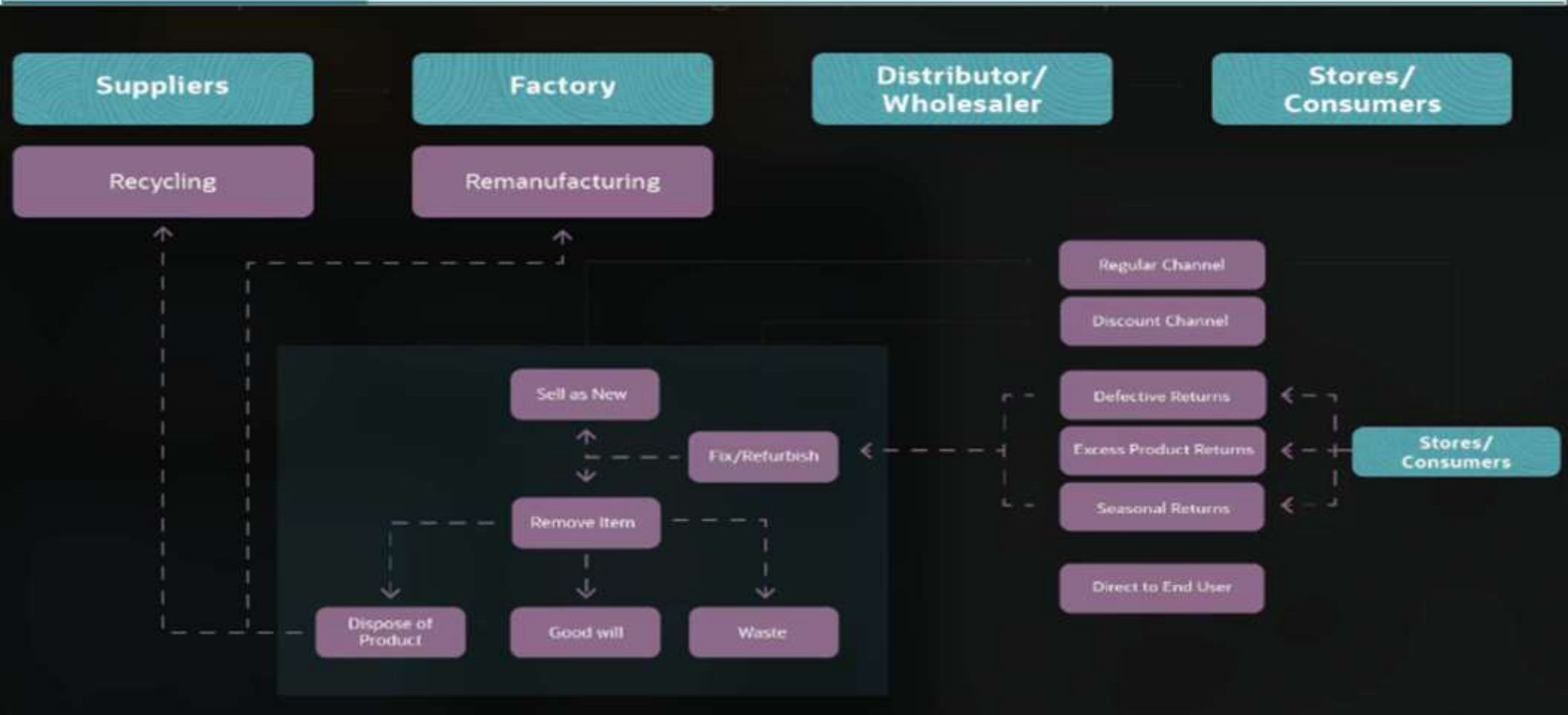


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- 16. Training and Development
- 17. Communication and Collaboration
- 18. Review and Update



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Logistics System Design & Administration:

- Logistics System Design:
 - 1. Network Design
 - 2. Facility Layout and Design
 - 3. Transportation System Design
 - 4. Technology Integration
 - 5. Inventory Management
 - 6. Order Fulfilment Processes
 - 7. Collaboration with Suppliers and Vendors
 - 8. Sustainability Initiatives



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- Logistics System Administration:
 - 1. Administrative Structure
 - 2. Regulatory Compliance
 - 3. Risk Management
 - 4. Performance Monitoring
 - 5. Documentation and Record Keeping
 - 6. Communication and Collaboration



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- 7. Training and Development
- 8. Continuous Improvement
- 9. Technology Maintenance and Upgrades
- 10. Budgeting and Cost Control
- 11. Customer Service Excellence
- 12. Security Measures

“Logistics system design and administration are ongoing processes that require a holistic and dynamic approach to adapt to changes in the business environment and technology landscape.”



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PROLOGIC

Dashboard

Trips

Routes

Stops

Map

Notifications

Need Help?

Date - Time: 29 Dec 2020 01:50 PM

Jerome Bell
Driver

Dashboard

Compliants

122

Active Shipments

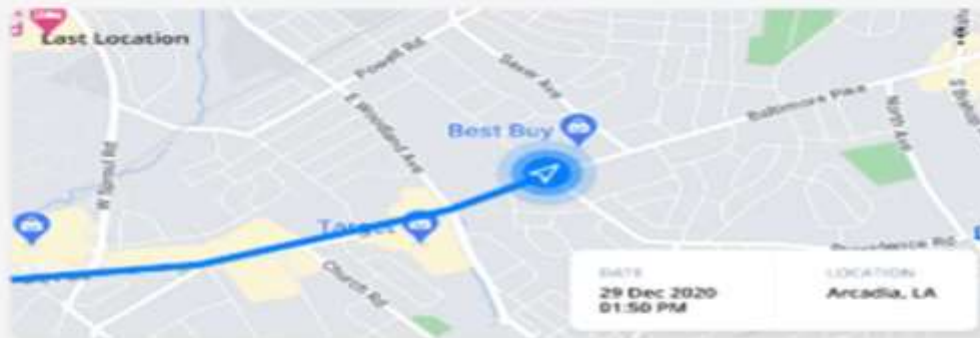
17

Delivered

8

Form & Manner Errors

11



Schedule

Delivery - 11:50 am
1892 S Emerald Ave, Chicago, IL, 60602

• Stop: 8 | 45 min | ORDERS

Lunch Break - 12:30 pm
1892 S Emerald Ave, Chicago, IL, 60602

• Stop: 2 | 20 min

Delivery - 3:15 pm
7808 S Dr Martin Luther King Jr Dr, Chicago, IL

• Stop: 5 | 1 hr | ORDERS

[View All](#)

Recent Logs

Last 7 Days

Date	Hours Worked	Distance	Hours of Service	Form & Manner
18 Dec 2020	09:50	500 mi	No Violation	No Error
10 Dec 2020	11:15	200 mi	No Violation	No Error
17 Dec 2020	02:45	200 mi	No Violation	No Error
12 Dec 2020	10:20	500 mi	500 mi	No Error
13 Dec 2020	10:50	500 mi	500 mi	No Error

Recent Comments

Hi Jerome, trying to help. I can't track order # 888030 on the map.
29 Dec, 08:45

Hi Jerome, we have a problem on the service. I will write to you as soon as we restore the connection.
29 Dec, 08:50

Hi Jerome,

29 Dec, 08:50

Hi Jerome, we have a problem on the service. I will write to you as soon as we restore the connection.
29 Dec, 08:50



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Logistic Environment Assessment:

- 1. Economic Factors:
 - Economic Conditions
- 2. Regulatory and Legal Factors
 - Customs and Trade Regulations
 - Environmental Regulations
- 3. Technological Factors
 - Emerging Technologies
- 4. Social and Cultural Factors:
 - Consumer Behaviour
 - Cultural Considerations



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- Political Factors
 - Geopolitical Stability
 - Government Policies
- 6. Environmental Factors
 - Climate and Weather Conditions
 - Sustainability Practices
- 7. Market Conditions
 - Competitive Landscape
 - Market Trends
- 8. Infrastructure
 - Transportation Infrastructure
 - Technology Infrastructure



- 9. Supplier and Partner Relations:
 - Supplier Stability
 - Collaborative Partnerships
- 10. Labor Market
 - Skilled Workforce
 - Labor Regulations
- 11. Security Considerations
 - Supply Chain Security
 - Data Security
- 12. Global Events and Disruptions
 - Pandemics and Health Crises
 - Natural Disasters



Drop shipping

- Drop shipping (or dropshipping) is a retail business model where the seller does not keep physical stock of products. Instead, when a customer places an order, the seller forwards that order to a third-party supplier (such as a manufacturer, wholesaler, or another retailer), who then ships the product directly to the customer. This means the seller never actually handles or stores the product themselves

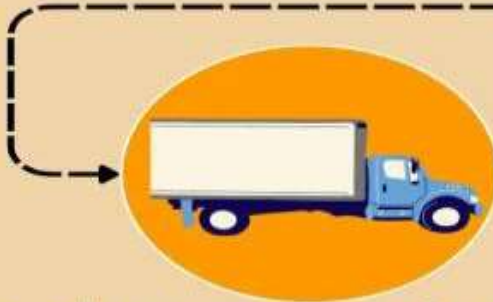
How Dropshipping Works



1. Customer buys product in your store



2. You order product from the supplier



3. The supplier ships the product to the customer



4. The customer receives the product

Pricing in logistics:

- 1. Cost Components:
 - Transportation Costs
 - Warehousing Costs
 - Handling and Packaging Costs
 - Technology Costs
- 2. Mode of Transportation
 - Shipping Method

COST FACTORS IN LOGISTICS

STORAGE COSTS



TRANSPORTATION COSTS



PACKAGING COSTS



ADMINISTRATIVE COSTS



COSTS FOR STRATEGIC TASKS





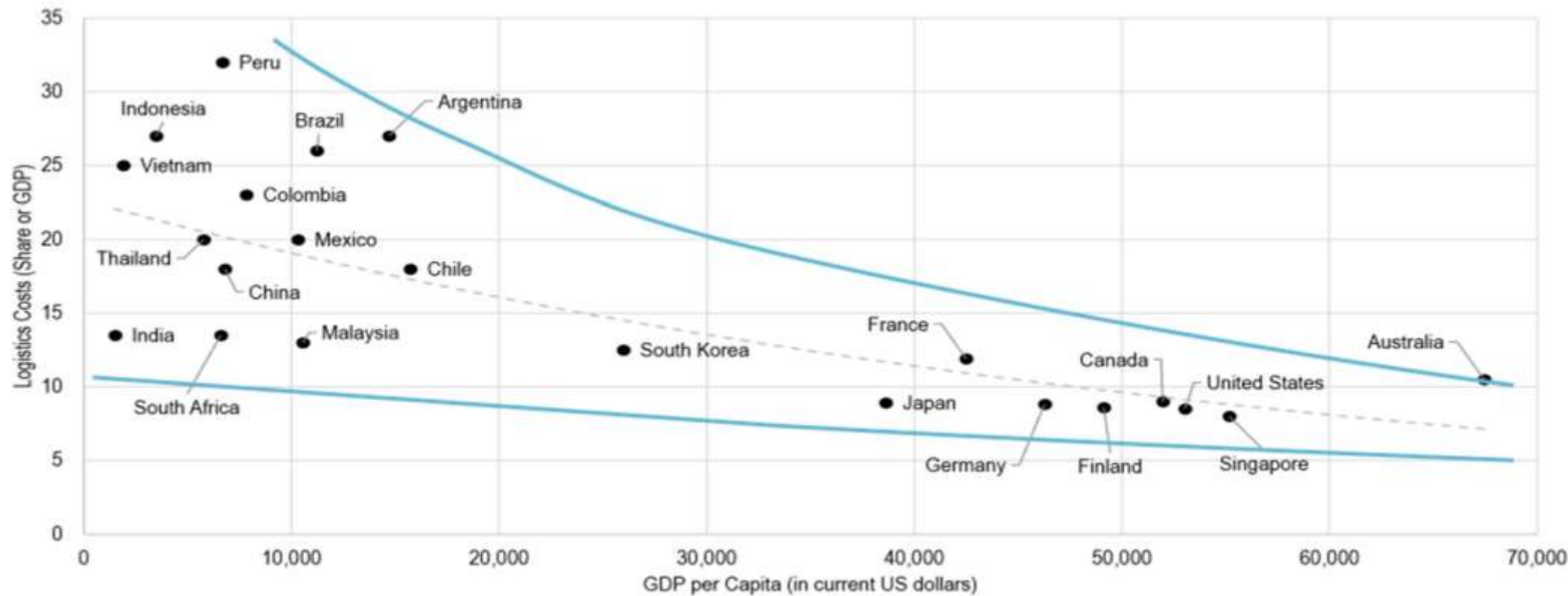
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- 3. Distance and Destination
 - Shipping Distance
 - Destination and Accessibility
- 4. Service Level and Speed
 - Expedited Services
 - Std v/s premium
- 5. Volume and Frequency
 - Volume Discounts
 - Frequency Discounts

Why???





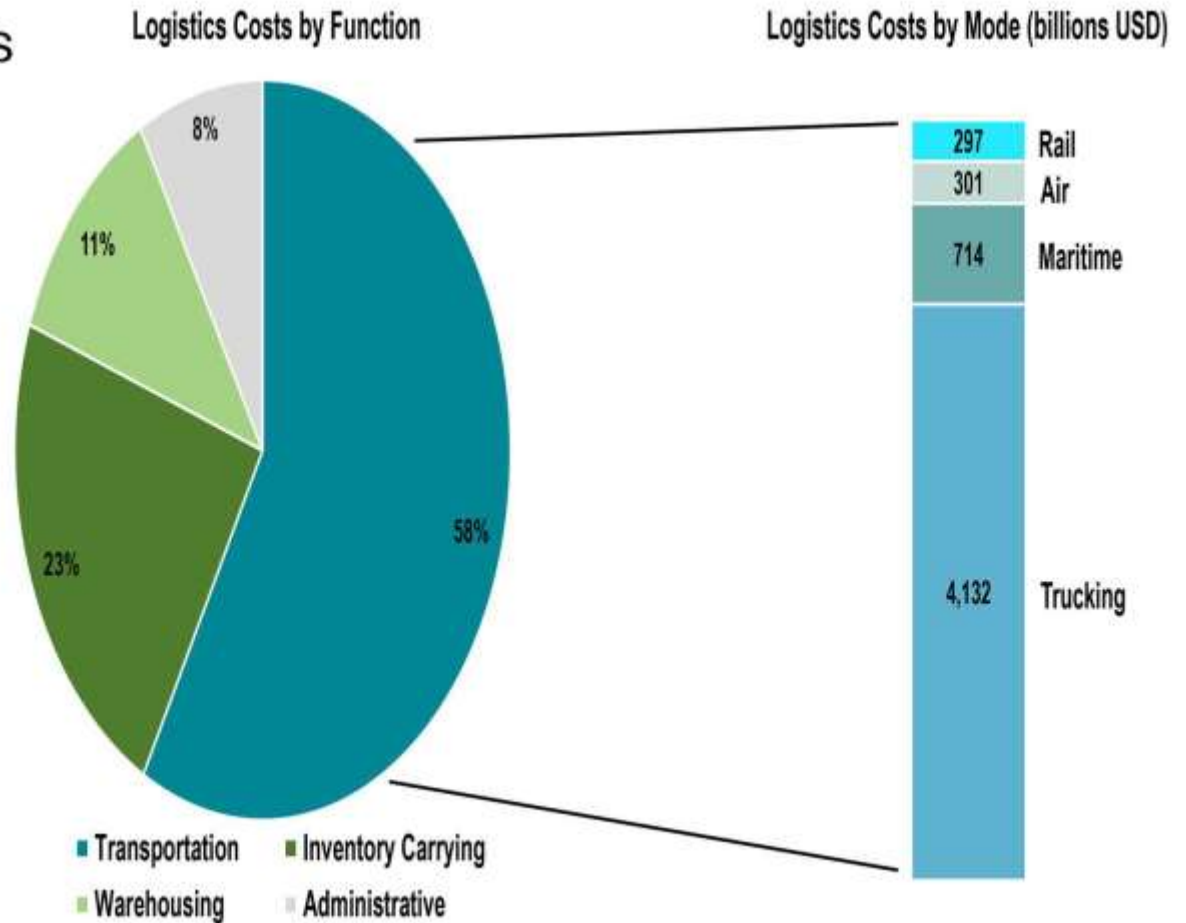
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- 6. Seasonal and Peak Demand
 - Seasonal Fluctuations
 - Peak Periods
- 7. Customs and Duties
- 8. Technology and Innovation
- 9. Market Conditions
 - Competitive Pricing
 - Customer Demand

- 10. Contractual Agreements
 - Long-Term Contracts
 - Negotiation
- 11. Risk Management
- 12. Value-Added Services;





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Warehouse:

Warehousing is the act of storing goods that will be sold or distributed later. While a small, home-based business might be warehousing products in a spare room, basement, or garage, larger businesses typically own or rent space in a building that is specifically designed for storage.





Scope / Objectives of Warehousing

- Receive the purchase goods and entered upon the stock register.
- Inventory Accounting of raw material, work-in-progress or finished goods.
- Preservation of the inventory
- Ability to access goods whenever called upon.
- Appropriate record keeping through coding as to preserve goods and reduce obsolescence.



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- Proper stocking of goods as ensure smooth handling.
- A smooth flow of production
- Appropriate layout management to reduce material handling and equipment handling
- Reduce to wastage as well as spoilage

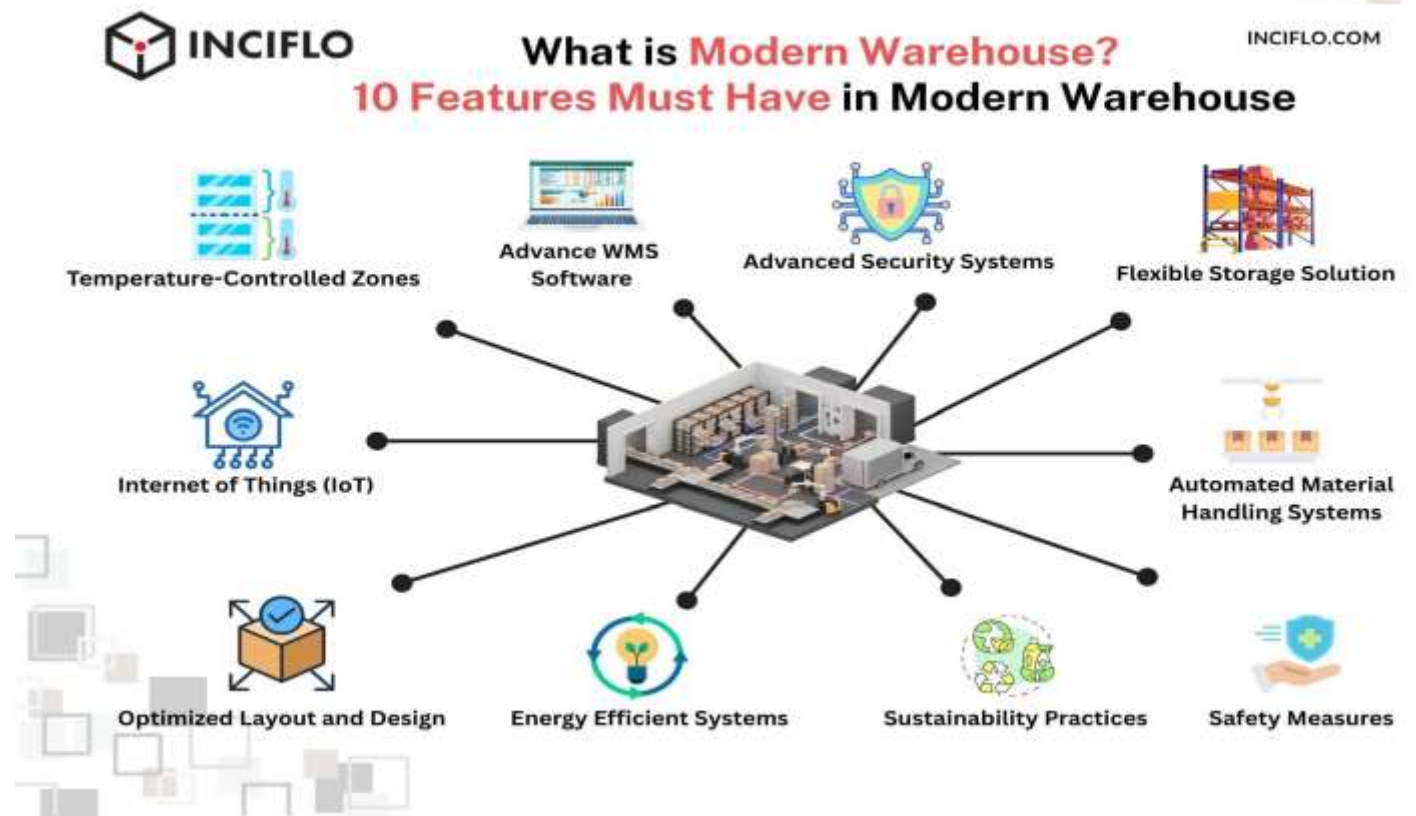


- Eliminate the possibility of theft and damage
- Ensure preservation of environment and reduce pollution.
- Encourage cost reduction and driving efficiency



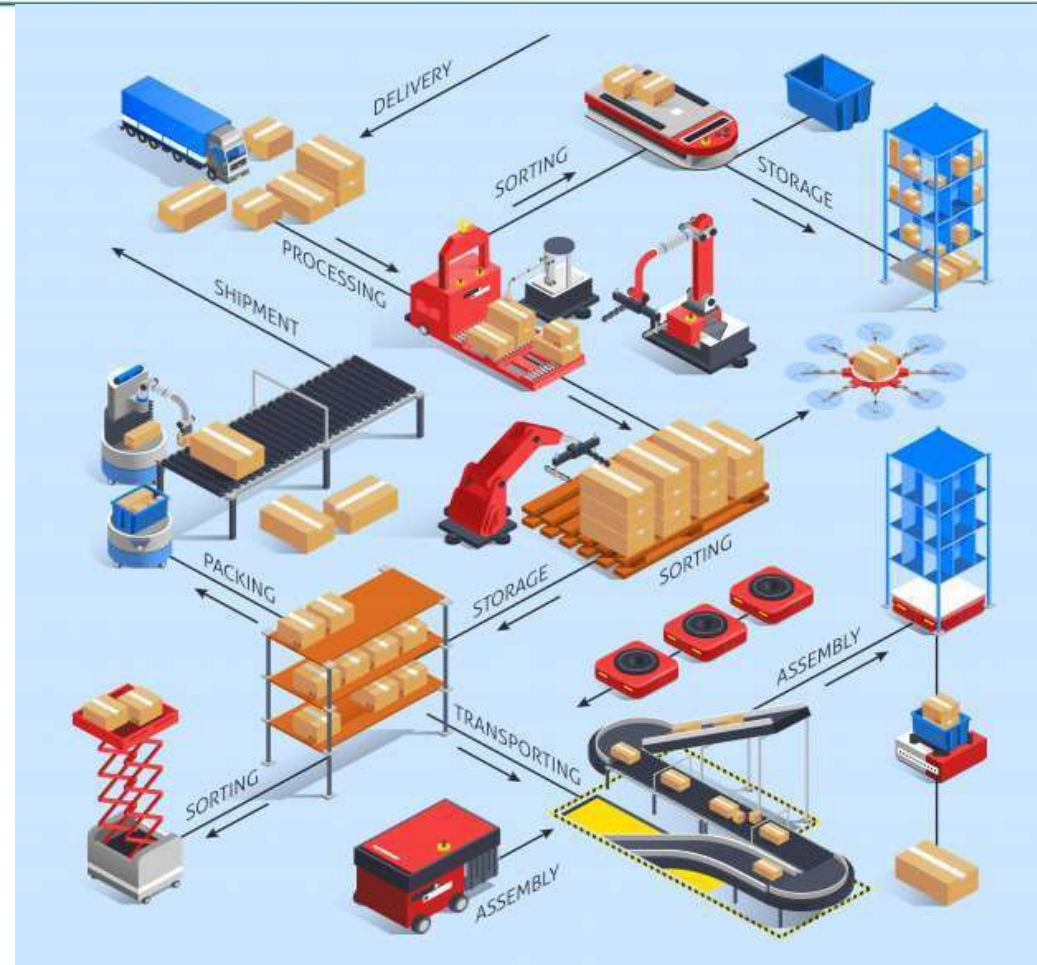
Primary Functions of Warehouse:

- 1. Storage
- 2. Price Stabilization
- 3. Risk bearing
- 4. Financing



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- 5. Grading and packing
- 6. Transportation
- 7. Time and place utility
- 8. Processing





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Efficient Warehouse Management

- 1. Maximize and optimize all available space.
- 2. Lean Inventory
- 3. Adopt enabling technology
- 4. Organise workstations.
- 5. Use Bin Locations and Labelling.



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- 6. Optimise labour efficiency.
- 7. Ensure Safety
- 8. Train the Staff Properly.
- 9. Reduce Inventory that Doesn't Sell.

Warehousing options (types)

- Private
- Public
- Contract
- Automated
- Climate-Controlled
- Distribution Center





Decisions in Warehousing

Types of Warehouses

Size of Warehouses

Number of Warehouses

Location of Warehouses

Warehouse Layout Design

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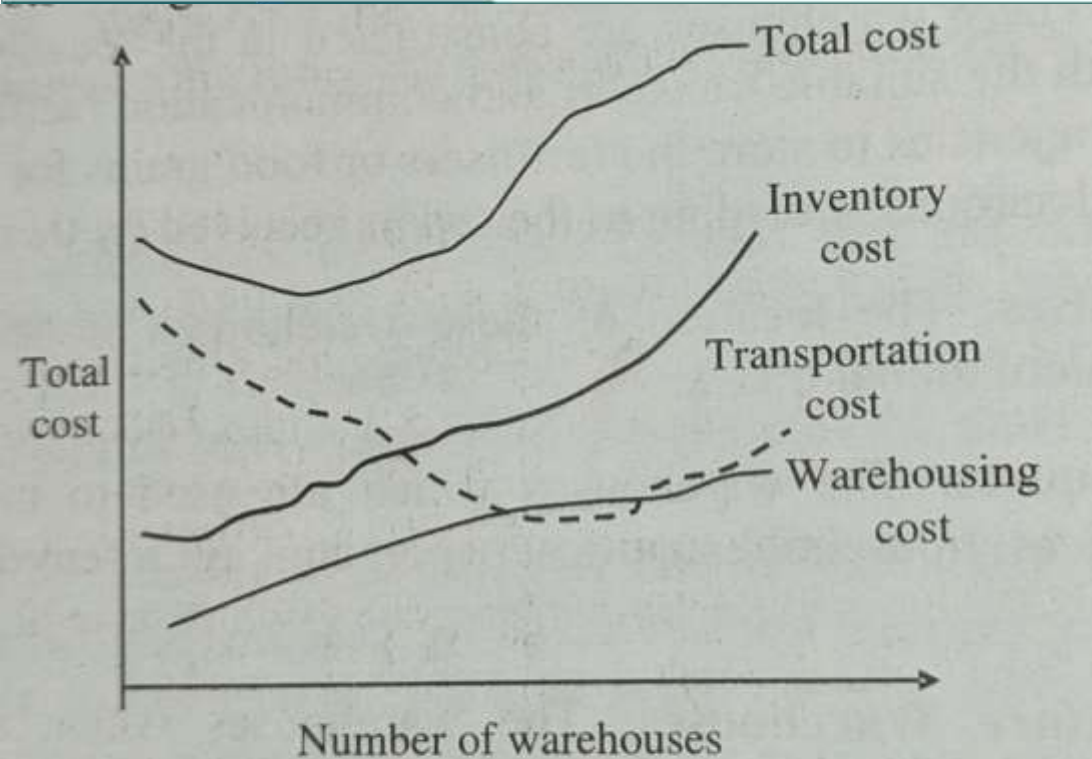


Figure 3.1: Relationship between Logistics Cost and the Number of Warehouses

Analyse!!!



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International Logistics

“International logistics involves the planning, implementation, and control of goods movement across borders, and it relies on several methods and tools to facilitate smooth operations while tackling complex challenges.”



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Incoterms

['in-'kō-'tərms]

Definitions of shipping and trade terms published by the International Chamber of Commerce (ICC) to ensure clarity and consistency in international trade agreements.



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Methods Facilitating International Logistics

- Freight consolidation
- Intermodal shipping
- Inventory optimization
- Collaborative logistics
- Documentation accuracy



Tools Facilitating International Logistics

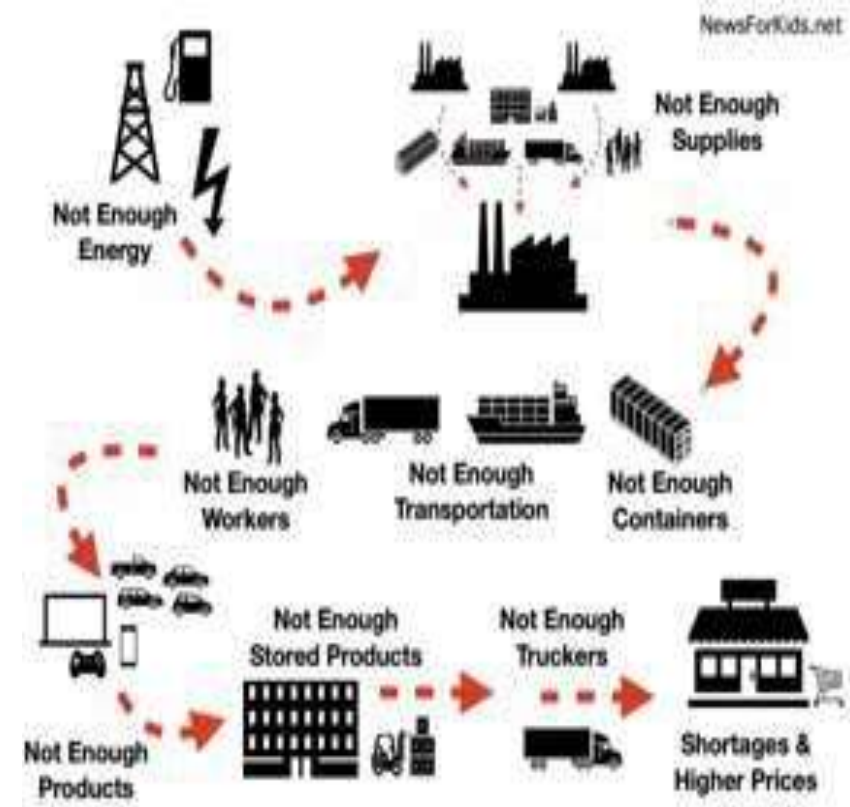
- Global Trade Management (GTM)
- Transportation Management (TMS)
- Warehouse Management (WMS)
- RFID and IoT devices
- Automation and AI analytics
- Integrated logistics platforms

Eg- BluJay



Challenges in International Logistics

- Complex regulatory environment
- Transportation constraints
- Supply chain disruptions
- Inventory management
- Infrastructure and technology gaps
- High logistics costs
- Communication and collaboration issues



Logistics and Environment

- Air Pollution & Greenhouse Gas Emissions
- Resource Consumption
- Packaging and Waste Generation
- Water and Noise Pollution

Figure 4 Comparison of typical CO₂ emission between modes of transport (IMO, 2009)

