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# Unit IV

## Intermodal Freight

# PROGRAMME EDUCATIONAL OBJECTIVES

- ◉ *Our program will create graduates who:*
- ◉ *1. Will be recognized as a creative and an enterprising team leader.*
- ◉ *2. Will be a flexible, adaptable and an ethical individual.*
- ◉ *3. Will have a holistic approach to problem solving in the dynamic business environment.*

# LOGISTICS AND SUPPLY CHAIN MANAGEMENT

## COURSE OUTCOMES

- CO1-Given a business situation containing the data (material and information flow) from supplier to manufacturer to the retailer, the student manager will be able to identify and explain the best Supply Chain strategy from the five supply chain strategies.
- CO2-Given a particular type of product, its manufacturer and customer, the student manager will be able to select, construct and explain the appropriate distribution network design type.
- CO3-Supplier is not able to deliver the products to the manufacturer because of one of the reasons (such as exchange rates, reliability of transportation channels, transfer price, political stability, and natural calamity). Student manager will be able to explain different types of uncertainties its solutions.

- C04-Student manager will be able to explain all the modes of transportation and for given a situation, would be able to identify the appropriate mode of transportation.
- C05-Student manager will be able to explain the role of technology in intermodal freight transportation and enlist and explain various technological tools, for intermodal freight security.

# 'INTERMODAL FREIGHT'

- Products and raw materials that are placed in a container that can be transported by a variety of vehicles, such as container ships, semi-trailer trucks and trains.
- Containers designed for intermodal freight often adhere to International Organization for Standardization (ISO) dimension guidelines, allowing the freight to remain in the container when transferred between modes of transportation rather than being moved into a container of a different size.

## CONTD....

- ◉ The emergence of standardized shipping containers has allowed products and raw materials to travel faster and at a reduced cost.
- ◉ The United States military is often credited with the containerization of shipping during the 1950s, when Department of Defence standards were adopted by the ISO.

# TRANSLOADING

- ◉ Transferring goods from one mode of transportation to another in order to have the goods reach their final destination.
- ◉ Transloading is used when it is not physically possible or is not economically efficient to transport goods to a final destination using only one method of transit.
- ◉ Companies that ship their goods internationally are likely to use multiple methods of transport, especially if both the shipping point and the destination are located inland.

## INTERMODAL RIDES INTO THE FUTURE

- ◉ Intermodal moves products with multiple modes of transportation.
- ◉ While it relies primarily upon rail shipments, it frequently involves sending merchandise via truck, ship or even by plane.
- ◉ Freight containers are utilized in intermodal, which eliminates direct handling of shipments and potentially reduces damage as well.

# INTERMODAL FOR FOOD INDUSTRY

- ◉ Intermodal is being used with increasing frequency in the food and beverage industries.
- ◉ Shipments of fresh produce, frozen goods, as well as beer and wine, are being sent by industry participants now relying more and more on intermodal transportation solutions.

## CONTD....

- ◉ **While intermodal providers cite a number of reasons for considering adoption of this mode of shipping, three interrelated themes emerge:**
- ◉ cost reduction,
- ◉ improvements in efficiency and
- ◉ environmental impact.

# COMPARING TRUCK AND INTERMODAL SHIPPING

- ◉ Intermodal transportation doesn't aim at eliminating truck shipments;
- ◉ it takes advantage of the best attributes of both truck and rail shipping, integrating them for improved efficiency.
- ◉ Since rail can save considerable fuel, railroad cars can carry cargo over long distance, high volume corridors.
- ◉ Trucks or barges move the loads between the rail terminals and the cargo's ultimate destination.

# INTERMODAL SERVICE PROVIDER RAILEX

- ◉ Railex has been making an impact on the beverage industry.
- ◉ The company uses unit trains of refrigerated cars to provide five-day, non-stop, coast-to-coast rail service from Delano, CA and Wallula, WA to Rotterdam, NY.
- ◉ By loading and unloading freight in temperature-controlled distribution centers, their state-of-the-art offering goes beyond current intermodal capabilities, providing point-to-point service that constantly keeps the cold chain intact

## CONTD....

- ◉ In addition to offering a platform that provides inventory visibility, optimum handling and supply chain management,
- ◉ Railex equips its rail cars with global positioning system (GPS) technology to track shipment location and precisely control temperatures and airflow.

## CONTD....

- ◉ Poindexter also points to the benefits their customers enjoy, including cost saving of 12 to 18 percent in comparison to over-the-road pricing.
- ◉ “With our model, there is considerably less trauma to the product,
- ◉ carbon and fossil fuels are reduced between 45 and 55 percent,
- ◉ there’s reduced traffic congestion, along with roadway wear and tear.”

## CONTD....

- ◉ When **Union Pacific** started weekly high-speed, refrigerated intermodal rail delivery of California fruits and vegetables, it was more than an example of its reliability.
- ◉ The shipments also marked a milestone in the century-long evolution of the company's service.
- ◉ It was the first time that they carried produce—which included peppers, grapes and celery—in rail cars since the interstate highway system was built.

# ADVANCED TECHNOLOGY

- ◉ Amazon has begun an aggressive acquisition program to create a global network of logistics as well as become a manufacturer of **delivery drones**.
- ◉ Although some feel that this is premature, **Germany and Switzerland are both already using drones to deliver mail**.
- ◉ Amazon is already testing drone deliveries in three countries outside of the United States. This new technology has the potential to disrupt the old system of movement of goods.

## CONTD....

- ◉ The U.K. is already **testing terrestrial autonomous robots** to deliver groceries locally in London.
- ◉ The **Botler (an automated hotel robot)** has already been in use at hotels for almost a year.
- ◉ These technologies seem more likely to be accepted due to not violating our airspace, but greater acceptance will certainly come in time.
- ◉ Furthermore, a mining company in Australia is already using **self-piloting trucks** to make regular deliveries in a remote area, and a group of **autonomous trucks** were organized in a convoy travel through Europe.

## CONTD....

- ⦿ Another consideration that has crept up and no one has cried foul is **self-piloting rail vehicles**.
- ⦿ Self-piloting trains are common in many airports, and these robotic railcars carry hundreds of thousands of people, if not millions of people daily with rarely an incident.
- ⦿ There is already a company working to create a **small robot train delivery system** that could be integrated as part of city transportation and delivery system.
- ⦿ There is no doubt that more of this kind of technology will be used in the future as additional logistical support is required to support the growing demand of consumers.

# BENEFITS OF INTERMODAL FREIGHT TRANSPORTATION.

- ◉ The railway system requires less fuel than road transport. Therefore, intermodal shipping lowers costs and contributes to a greener environment.
- ◉ When you need to make additional space on your dock, or prepare and load a shipment over the course of days, dropped intermodal container fees are minimal in comparison to full truckload

## CONTD...

- ◉ **Lower costs.** Shippers can take advantage of lower rates, more predictable pricing, and the flexibility of loading and unloading goods in a dropped trailer environment, which reduces handling costs.
- ◉ **Environmentally friendly.** Shippers can significantly reduce their carbon footprint by going intermodal, because trains only emit approximately 5.4 pounds of carbon dioxide per 100 ton-miles, whereas trucks emit approximately 19.8 pounds.
- ◉ **Reliability, capacity, and safety advantages.** Shippers have more access to equipment and standardized transit schedules. As companies move their freight to intermodal, there is also the opportunity to streamline their reverse logistics, providing additional savings.

THANK YOU

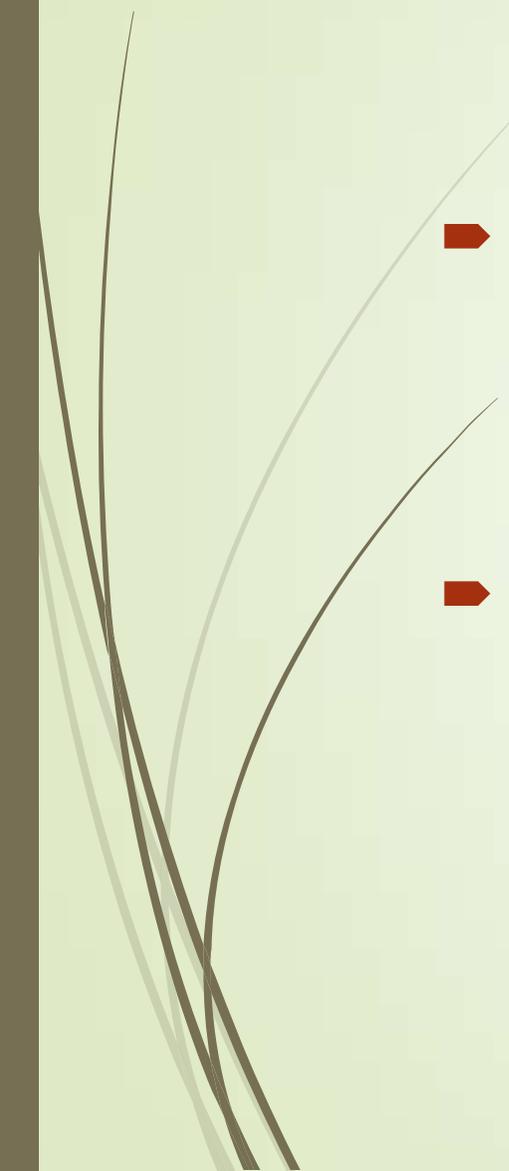


# **Unit IV**

## **Intermodal freight**



# Intermodal Freight

- ▶ Products and raw materials that are placed in a container that can be transported by a variety of vehicles, such as container ships, semi-trailer trucks and trains.
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# Benefits of intermodal freight transportation.

- ▶ The railway system requires less fuel than road transport. Therefore, intermodal shipping lowers costs and contributes to a greener environment.
- ▶ North America's comprehensive rail network makes it possible to send shipments from the Atlantic to the Pacific, and everywhere in between.
- ▶ When you need to make additional space on your dock, or prepare and load a shipment over the course of days, dropped intermodal container fees are minimal in comparison to full truckload.



# Intermodal shipping best practices.

- Identify the opportunity: Intermodal can be a solid selection for shippers that are sending multiple LTL shipments to the same destination several times a week. Additionally, intermodal is a great way to reduce your organization's carbon footprint.
- Package carefully: Intermodal shipments do not typically leave the container between the shipping origin and destination. However, the container itself experiences quite a bit of movement throughout the process. Blocking and bracing techniques should be used to keep freight from moving within the container.
- Work with a freight service provider: Teaming up with intermodal transportation experts will make the process less stressful from start to finish. It's important to select a provider that has the ability to negotiate rates with Class 1 railroads.



# Future

- ▶ Although sea freight and rail is currently the most popular form of intermodal freight, it is my opinion that this will change in the coming decades.
- ▶ There is no doubt that sea and rail will still be an important part of any organization's supply chain, but logistics is on the cusp of a new generation of intermodal freight.
- ▶ Looking forward, one has to recognize the growing importance of Autonomous Delivery Systems. Drones, terrestrial robots or self-piloting vehicles will soon dominate the "last mile" of delivery.



# Article

- ▶ Article: How to know it's time to add intermodal to your supply chain
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Thank You