

# The Role of Transshipment in Global Supply Chain

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**Abstract:** Transshipment is the process of transferring goods from one mode of transportation to another or from one vessel to another during their journey within the global supply chain by facilitating the movement of goods across various geographical regions.

The topic explores the significance of transshipment in global supply chain, where transshipment take place, and the authors of transshipment. By strategically redistributing cargo and mitigating disruptions, transshipment hubs serve as critical nodes in the global logistics network, enabling faster delivery times and improved inventory management. Through a personal statement and with a global car exporter this presentation shows the advantages of transshipment on global supply chain management practices and highlights emerging trends shaping its future role in global trade dynamics.

**Kulcsszavak:** *car export industry, shipping process, flexibility*

## 1 Introduction

Today, global and extended markets around the world must process and manage products of different types, which reduces processing time, reduces volumes and reduces delivery times to customers. As the world becomes increasingly interconnected, fueled by globalization and advances in transportation technology, the significance of transshipment in optimizing supply chain operations has grown exponentially. Multiple managers often need to find effective answers to one of the following very critical questions:

1. in which factory and country is most profitable to manufacture and/or store a specific mix of products?
2. what is the most appropriate level of safety stock for each item in a company's product line?
3. which modes of transportation best meet the needs of customers who can be located around the world?

This paper delves into the various dimensions of transshipment within the context of the global supply chain, exploring its impact on trade dynamics, logistics management, and economic development. Through a comprehensive analysis of case study, this paper aims to provide valuable insights into the evolving landscape of transshipment and its implications for businesses, stakeholders, and policymakers alike.

## 2 Definition and generalities

According to the book of Supply chain edited by Verdan Kordic transshipment is the process of transferring goods or cargo from one transportation vehicle or vessel to another during the course of a journey. This typically occurs when goods are moved from one mode of transportation, such as a ship or truck, to another, like another ship, train, or plane, to reach their final destination.

We have two types of transshipment:

*Silent transshipment:* The container gets moved onto another vessel at the hub port without being unpacked. The new vessel then transports the container to its final destination.

*Active transshipment:* The container is unloaded, and the cargo is loaded onto multiple transshipment vessels assigned to various final destinations.

Transshipment can take place at various points along a logistics route, including ports, airports, and railway terminals. It's commonly used to optimize shipping routes, consolidate cargo, and facilitate the movement of goods between different transportation networks.

Transshipment activities are typically carried out by various stakeholders involved in the logistics and transportation industry like: Shipping lines, Ports authorities, Freight forwarders, Terminals operators, Customs authorities.

## 3 Benefits of Transshipments

### *Lowered Costs*

Businesses can make use of transshipments to strategize the cheapest routes for their shipments. These routes may be lower in demand or incur lower customs duties.

Some transshipments are done as part of freight consolidation, which is a more efficient way for carriers to transport goods on behalf of consignors. This increased efficiency results in more favorable transport costs for businesses.

### *Greater Flexibility*

Transshipments allow consignors to take advantage of changing market conditions to find the most efficient routes for their goods. This may also be achieved by planning routes that switch between land, air and sea freight.

It also offers greater flexibility to get around delays during times of conflict or natural disaster.

### *Greater Accessibility*

Transshipments help consignors overcome size and route restrictions, granting them greater access for the shipment of goods to ports worldwide.

- Smaller ports

Transshipment grants access to ports that are unable to accommodate larger vessels. Cargo can be moved from a big vessel to a smaller one to suit the size limitations of the destination's port.

- Less popular locations

Not all vessels may service less popular destinations around the world. If there are no direct shipment routes from the consignor's location, transshipment becomes a vital option to complete the shipment.

## **4 Disadvantages of transshipment**

### **4.1 Time-inefficient**

Transshipments are likely to take more time to complete than direct shipments due to the additional steps of loading and unloading. Delays may also arise as carriers wait for consolidated shipments to fill up or due to weather and rerouting issues.

### **4.2 Risk of Damage**

As cargo undergoes more handling during the transferring process, there is a greater risk of items being damaged or lost.

## **5 The role of transshipment in global supply chain**

Transshipment plays a pivotal role in optimizing global supply chains by enhancing efficiency, reducing costs, improving flexibility, and mitigating risks, thereby contributing to the competitiveness and resilience of businesses operating in today's interconnected world economy.

Transshipment provides flexibility in responding to dynamic market demands and disruptions. For instance, if a port experiences congestion or a transportation route is disrupted, goods can be rerouted through alternative transshipment hubs to minimize delays and ensure continuity of supply.

## **6 Case study (SBT Japan)**

### **6.1 SBT Japan Field of work**

SBT Japan, headquartered in Yokohama, is a major player in the global used car export industry. The company specializes in exporting pre-owned vehicles from Japan, South Korea, and other countries to over 120 nations. Their primary markets include developing regions in Asia, Africa, and the Caribbean, which collectively account for the majority of their exports.

SBT Japan operates a comprehensive online platform where customers can browse a vast inventory of vehicles sourced from Japanese auctions and local dealers. The company ensures high-quality standards by performing thorough inspections on all vehicles before shipment. Their operations are supported by a network of 33 overseas offices and a dedicated workforce of around 1,500 employees.

SBT Japan is expanding its services to include customer-to-customer (C2C) transactions through its KAITORE platform, aiming to facilitate direct sales between buyers and sellers globally. The company also leverages advanced technologies and partnerships to continuously improve its services and meet the diverse needs of its international clientele.

### **6.2 SBT Japan mission**

SBT Japan has given itself the mission of selling used vehicles throughout the world with a maximum delivery time of 45 days to the port of destination.

To make the task possible, SBT Japan works in close collaboration with The Keihin CO, LTD which is responsible for organizing the transport of SBT Japan vehicles while respecting the maximum 45 days of delivery anywhere in the world.

The company subcontracting SBT Japan on transport is then responsible for organizing transshipment and multimodal transport with the objective of just-in-time delivery and reducing costs.

### **6.3 SBT car purchasing and delivery process**

The process of purchasing and delivering a car from SBT Japan involves several detailed steps designed to ensure a smooth transaction and high customer satisfaction. Here's a breakdown of the process:

- *Searching and Selecting a Vehicle*

Search Inventory.

Customers can search for vehicles on SBT Japan's website, which lists cars from various global locations including Japan, South Korea, Singapore, and the UAE.

Inspection Reports.

Detailed inspection reports and grading systems help customers assess the condition of vehicles before purchase.

- *Making a Purchase*

Inquiry and Consultation.

Potential buyers can inquire about specific vehicles and consult with SBT Japan's customer service representatives to get more information and assistance.

Payment.

Once a decision is made, the customer proceeds with the payment. SBT Japan offers various payment methods including bank transfers and other secure options.

- *Vehicle Inspection and Shipping*

Final Inspection.

SBT Japan performs thorough inspections of the vehicle after the purchase to ensure it matches the condition described in the listings.

Shipping Arrangements.

The vehicle is then prepared for shipment. SBT Japan handles all logistics, ensuring the car is shipped to the customer's designated port efficiently and promptly.

- *Delivery and Post-Purchase Support*

Tracking and Communication.

Customers can track their shipment and stay in touch with SBT Japan's customer service for updates and any necessary assistance during the shipping process.

Receipt of Vehicle.

Upon arrival at the destination port, customers receive their vehicles. SBT Japan provides guidance on customs clearance and any additional steps required to finalize the import process.

### **6.4 SBT Japan Shipping process**

SBT Japan arranges the shipment of the vehicle. They use both Roll-on/Roll-off (RORO) and container shipping methods. The choice of method depends on the destination and customer preference. RORO is generally used for large volume shipments, while container shipping is used for added protection and for destinations where RORO services are not available.

### **6.5 SBT Japan transshipment and handling**

In some cases, transshipment is necessary if there is no direct shipping route to the destination. During transshipment, the vehicle is transferred from one vessel to another at an intermediate

port. SBT Japan ensures that this process is handled smoothly to avoid any delays or damage to the vehicle.

Once the vehicle reaches the destination port, the customer or their appointed clearing agent handles the customs clearance process. The bill of lading and other documents provided by SBT Japan are essential for this step. After clearing customs, the vehicle can be delivered to the customer.

### 6.5.1 Practical Example

SBT Japan shipment of a car from Kobe, Japan, to Burundi with Dar es Salaam Tanzania port as final port of destination. There might not be a direct shipping route available. In this case, the cargo could first be shipped to a major hub like South Korea, Singapore, India (transshipment ports) and then transferred to another vessel bound for Dar es Salaam. The transshipment B/L would detail this journey, including the transfer point and the vessels involved. By using this transshipment SBT Japan aim to reduce delivery time, cost and satisfy its customer by accomplishing its mission of 45 days delivery.

The tables below help us understand how SBT Japan earns from transshipment:

**Table 1** Travel days' calculation table with transshipment

Vessels	destination (Hubs& Ports)	nautical miles (Distance)	knots (Speed)	days& hours	STOPOVER	DEPARTING DATE
Dream diamond	port Kobe - Pyongtaek	733	20	1,5	4 stop-over	DEC, 1st 2021
	Pyongtaek -	574	20	1.2	2 days each stop-over	
Asian	Shanghai	2691	20	5.6		
Dynasty	Shanghai -	1891	20	3.9		
	Singapore	3091	20	5,4		
	Singapore -	223	20	0.5		
Morning Crown	Chennai					
	Chennai -					
	Mombasa					
	Mombasa -					
	Dar es salaam					
		9203		18.1	8	Estimated arrival date Dec, 26st 2021

The total estimated number of days is equal to 26.1 days stopover and days of trip.

**Table 2** Travel day's calculation with one vessel

Vessel	Destination	nautical miles	knots	days& hours	STOPOVER	DEPARTING DATE
Andromeda Spirit	port Kobe -	808	20	1,7	6 stop-over	DEC, 3st 2021
	Shanghai	2691	20	5.6	2 days each stop-over	
	Shanghai -	1891	20	3.9		
	Singapore	1206	20	2.5		
	Singapore -	1589	20	3.3		
	Chennai	2963	20	6.2		
	Chennai -	223	20	0.5		
	Mumbai					
	Mumbai- El					
	Manamah					
	El Manamah					
	- Mombasa					
Mombasa -						
Dar es salaam						
		11371		23.7	12	Estimated arrival date Jan,7st 2022

The total estimated number of days is equal to 35.7days stopover and days of trip.

The use of transshipment in this transport has a difference of 9 days 6 hours compared to the use of a single vessel from Japan. Which gives the SBT Company a gain in credibility for its customers, reduction in costs linked to parking in ports and saving time.

## 7 Conclusion

Transshipment plays an essential role in the global supply chain by providing flexibility and efficiency in the movement of goods. SBT Japan's effective use of transshipment in its vehicle export process demonstrates how this method can help businesses overcome logistical challenges, optimize costs, and ensure timely delivery of products to international markets. This approach not only enhances operational efficiency but also strengthens customer satisfaction by maintaining high standards of quality and support throughout the shipping process.

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