

Global Transportation - Review of Challenges and Best Practices

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Abstract

With the Globalization gaining more prominence, both sourcing and distribution have become global, opening up a wide range of opportunities for retailers in their end to end supply chain. Global sourcing has resulted in import volumes going up significantly. Global top retailers are importing over 30% of their volumes towards a better financial performance and greater choice to the end consumer. This paper, with focus on global transportation, brings out some of the key challenges and best practices in various segments of in-bound supply chain as retailers pursue global sourcing strategies. It covers various aspects of overseas in-land transportation and international trade logistics from the perspective of retailers in India.

Keywords

Globalization, Retailers, Transportation, Optimization

I. Introduction

Transportation agencies and organizations around the world face some of the toughest operational and strategic challenges in recent memory. Soaring energy costs, budget cutbacks, and new security concerns are forcing agencies around the world to rethink basic strategies and become smarter about how they build and manage transportation networks and services. The new reality is being felt across the entire industry, from state and local transportation departments to national rail operators to urban mass transit agencies [3]. At the same time, many agencies are benefiting from a renewed flow of capital into selected transportation segments, such as high-speed rail service. Globally, stimulus spending measures have reenergized highway and transit agencies with new funds for investing in roadway repair and building new, energy-efficient mass transit systems [1]. These initiatives have opened up new opportunities for agencies, helping them replace aging physical infrastructure and invest in transformative systems that promise to elevate customer service to new levels. In our review of the industry, Mainstay Partners found that the best performing transportation agencies were also technology pace setters [8]. In particular, these agencies saw significant advantage in breaking down traditional operational and technical barriers that previously limited management visibility, impeded cross-team collaboration, and slowed communication between field operations and headquarters. Not surprisingly, these agencies stood out as industry leaders in building open, secure communication networks and sophisticated collaboration platforms. By “converging” disparate operations and systems, these organizations have become better integrated, more responsive, and more intelligent [5]. The move has empowered agencies with the means to confront the most pressing challenges of the new global economy, from rising raw material costs and shrinking operational budgets to new mandates around environmental sustainability, energy efficiency, and security.

II. Key Trends and Quick facts of Global Transportation

A. Shift in Power

Traditionally suppliers were responsible for a host of activities

beyond manufacturing that included transportation, customs clearance, loading and shipment building etc. Retailers were paying for these services as part of the direct material costs. In the recent years, with increased volumes, retailers are in a better position to handle inbound transportation more economically than the individual vendors supplying to the retailer [2]. This has resulted in emergence of multiple concepts by which retailers are taking charge of inbound transportation such as Factory Gate Pricing (FGP), ‘Pre-paid to Collect’ and move from FOB (Free of Board) to FCA (Free Carrier) term of sale in imports.

B. Supply Chain Security

In the post 9/11 world, having a secure supply chain has become a MUST requirement for retailers and importers. Certified factory, visibility to factory operations, seal tracking and CTPAT (Customs Trade Partnership against Terrorism) have been some of the initiatives towards securing supply chain [7]. While CTPAT could be a voluntary compliance; along with other mandated compliance requirements, it could greatly impede the supply chain, if not managed well.

C. Transit Time Variances

The transit times involved in ocean transportation vary significantly. For example, the transit time from South China to US-west coast could vary anywhere from 15 days to 45 days. Retailers/ importers have limited control over this.

D. Financial Cost Control

Understanding of the tax implications in various sourcing countries and local regulations has a huge promise of savings towards bringing down the Total Landed Cost (TLC).

E. Port Congestion

Close to 89% of ocean shipment volumes originate from China and South East Asia. Almost all of this is typically directed to US west coast resulting in congestion across LA, Long Beach and other west coast ports. As part of de-risking strategies by retailers, approximately 10% shift in volumes was seen in the last 2-3 years.

F. Domestic Distribution

Most of the retailers have already made investments in the domestic distribution space. Several success stories reported of efficient load consolidation and resulting lower transport costs.

III. Key Challenges

The following are some of the key challenges faced by the retailers working on global sourcing in managing their global transportation:

1. Gaining control over inbound transportation, given the huge challenges in terms of required change management with vendors and consolidators/ third-party logistics providers.
2. Managing international trade logistics given the growing volumes in imports, in absence of supporting robust process and systems.

3. Gaining visibility and control across the entire inbound process involving vendors, consolidators and several third-party and state agencies.
4. Rising Transportation costs due to fuel prices. While, current economic slowdown has resulted in lower costs, early part of year 2008 has seen the impact fuel prices would have on overall costs.
5. Managing varying lead times in global transportation with actionable visibility that helps in proactive planning in absence of control over lead times
6. Maintaining a faster trade lane from china (sourcing country) to US that could provide retailers with required competitive advantage.
7. Managing the import gateway decisions dynamically towards balancing the capacity constraints across ports and support in maintaining a faster trade lane
8. Effectively managing the Minimum Quantity Commitments (MQC) with ocean carriers towards reducing the penalties retailers would incur for non-adherence to MQC.
9. Effectively work with consolidators towards implementing global sourcing strategies and changes to the process in the sourcing country, where retailer has little or no presence.
10. Implementation of CTPAT guidelines and best practices towards maintaining a faster trade lane.
11. Selection of right equipment (container) and route for transportation (transport optimization) towards maximizing the utilization and to minimize loose freight and the Container Freight Station (CFS) fees.

IV. Relevant Key Performance Indicators

A. Perfect Order (Index)

Perfect Order Index represents the service levels and combines metrics of on-time delivery, complete/in full, zero damage and all documentation and labeling being complete and accurate [9]. In the import supply chain export document compliance becomes much more critical and any non adherence could impact this metric.

B. Transportation Costs (\$, %)

Large retailers are spending billions of dollars on transportation (including retail & non-retail freight, import freight & domestic inbound and returns management). In certain categories transportation costs as % of COGS could be as high as 50%. If these costs are not managed well, the benefits of global sourcing and gross margin impact simply get eroded.

C. Ocean Freight (\$, %)

More than 25% of all transportation costs are pertaining to ocean transportation. In addition non-adherence to MQC could attract huge penalties, while the service levels also might get impacted.

D. Capacity Utilization Rates (%)

Capacity utilization rates are another key driver impacting overall transportation costs, and are applicable for both containers and trucks. Given the tariff structures common to transportation industry, often, there is no discount for poor cube utilization. Hence it calls for right equipment selection and routing towards maximizing utilization rates [6].

E. Lead Times and Variability in the Lead-Time (Days, %)

Both the lead time and variability in the lead time would heavily contribute to the built-up of inventory. Traditionally, global supply chains have shown high degree of variability in the lead-times.

F. Supply Chain Visibility (%)

This represents metrics of visibility to booking information and visibility to shipment information including current status. Given very little control over lead-times and variability in lead times, visibility helps in better managing the exceptions towards better service levels and lower costs.

G. Inventory Levels (Days, Turns)

In-transit inventory would get affected by transportation related initiatives. While this delicate balance between inventory and transportation costs in case of domestic inbound shipments has long been in focus; the same needs to be looked at for global sourcing initiatives [4]. Demands on freeing working capital, in the context of current economic crisis only mean that the inventory levels be reduced, even with global sourcing.

V. Information & Document Flow

1. Vendor commitments are obtained for the year/ period based on the forecasts (Merchants review the medium to long term stores' forecasts)
2. Purchase Orders (PO) are raised as per replenishment policy. These PO are sent across to vendor and shared with import finance teams for managing Letter of Credit (LC)
3. Finance team works with banks and obtains LC.
4. The LC information is passed on to the vendor by his bank
5. Vendor submits the ready to ship (RTS) information against the PO to the retailer/ retailer nominated consolidator.
6. Vendor would do the customs clearance, prior to shipment
7. Vendor would submit the shipment documents to bank after handing over the goods as per terms of sale with the retailer
8. Payment is released to the vendor as per the terms of LC

VI. Business Process Description

Fig. 1 & 2, summarizes Import supply chain process and the transportation process in the sourcing country, overseas In-land transportation process.

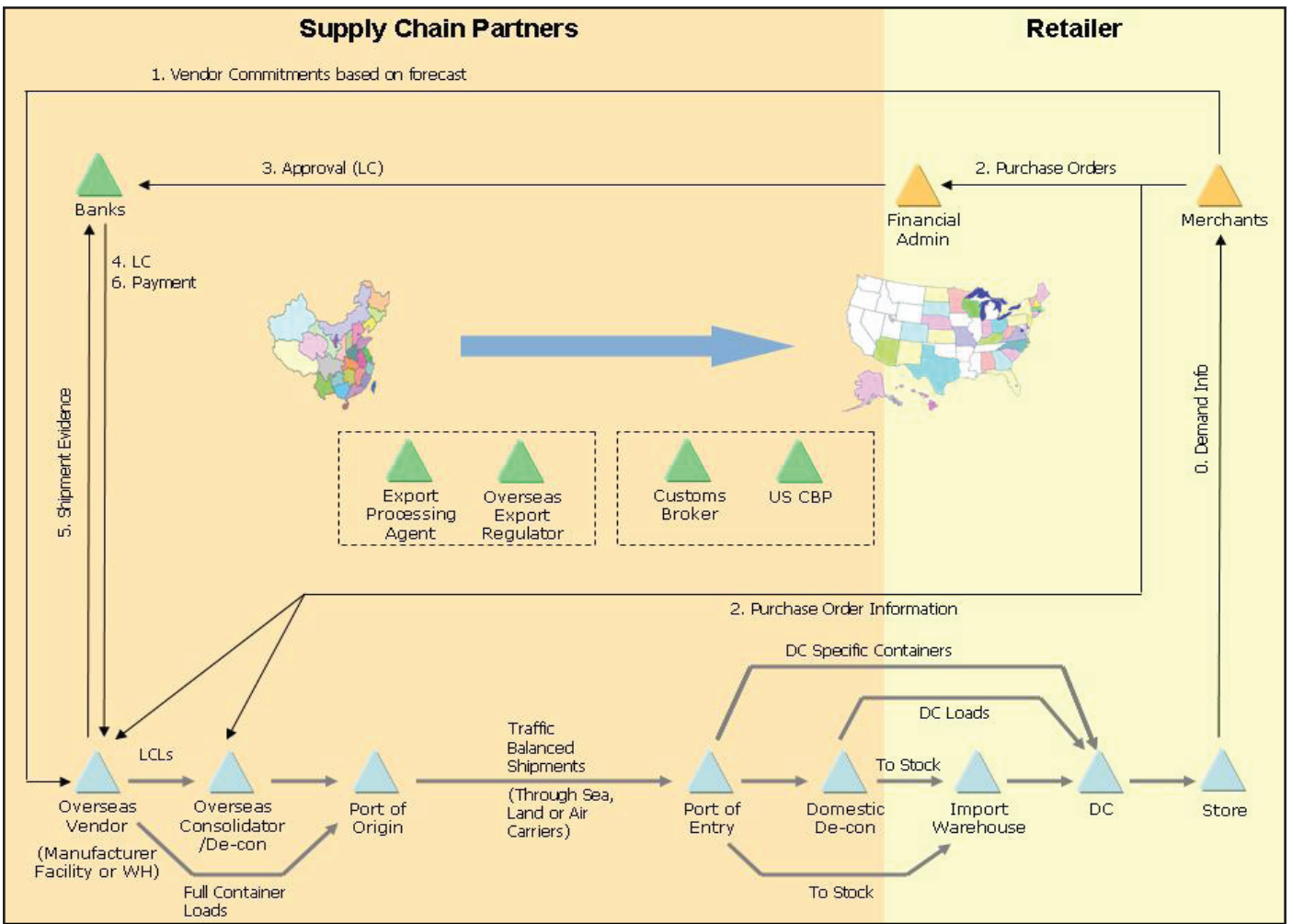


Fig. 1: Import Supply Chain Process

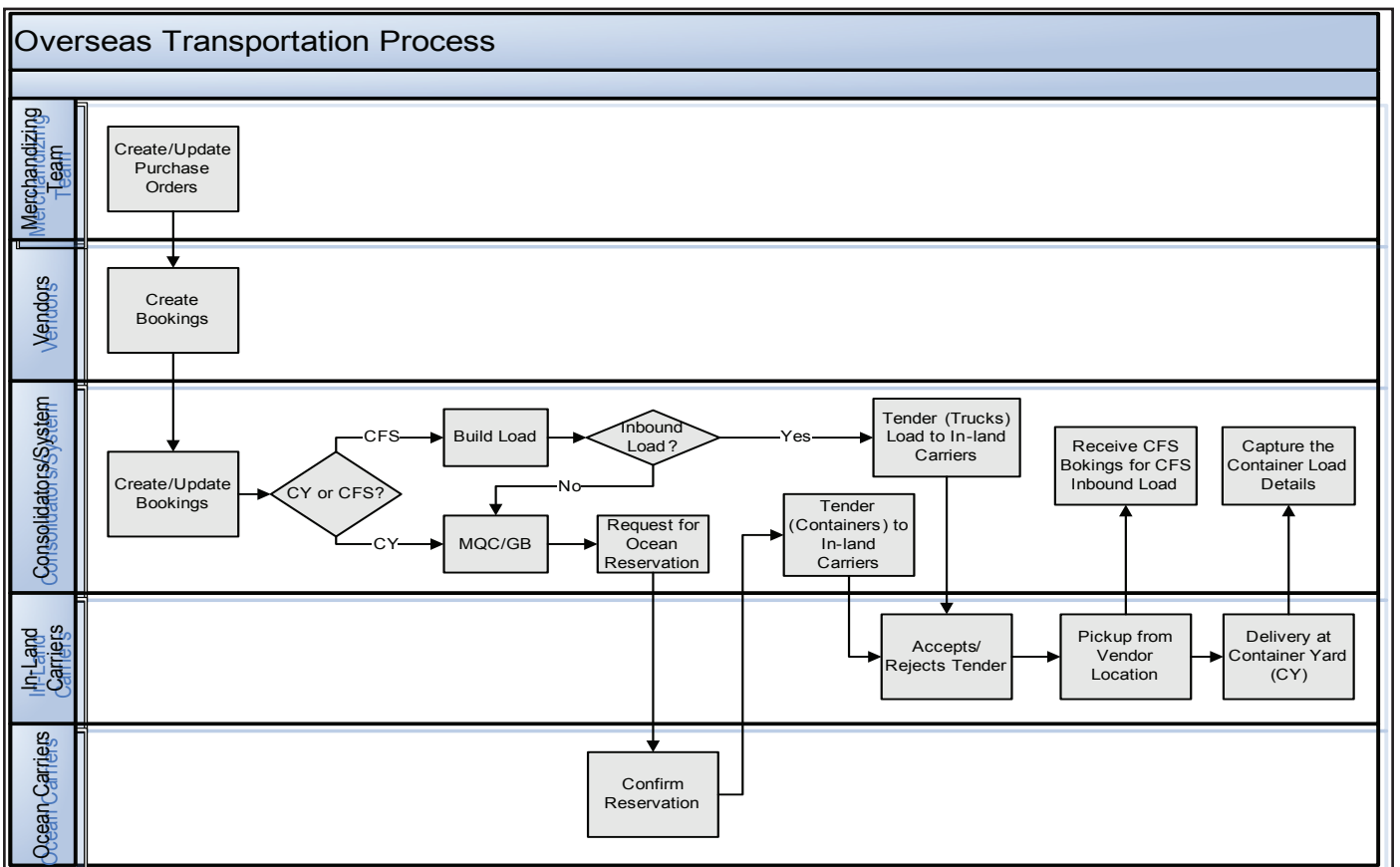


Fig. 2: Overseas Transportation Process

As may be noted from above transportation from factory to port (under FCA term of sale) is different from FOB scenario. Many retailers are new to this process and have neither process capability nor required IT systems in place. Also, it may be noted that, while retailer is responsible, it is the designated consolidator who executes this process in select geography. Equipping consolidators adequately with new process and enabling IT systems will be critical to the success of initiatives like implementation of FCA term.

VII. Best Practices – Examples and Insights

Below is a summary of some of the best practices that can be implemented as part of global sourcing strategy and implementation.

A. Transport Optimization

Transportation Optimization does the efficient load planning, route design, equipment selection and carrier selection towards reduced transportation costs. While many retailers have implemented such optimization solutions primarily to address domestic transportation needs, very few are using these capabilities as part of their global transportation [8]. As part of global sourcing, In-land transportation in sourcing countries represents a fine opportunity in terms of reducing the transportation costs and reducing CFS fees.

B. Gain Control over Inbound Freight

Leading retailers TESCO and Woolworths, Australia had implemented this practice as part of their in-land sourcing. Both have reported significant savings in transportation after taking charge of primary freight (domestic inbound). These benefits are likely to further increase with ‘integrated primary and secondary freight management’, which addresses possible backhaul and closed loop transportation planning [5]. Extending this practice to global suppliers involves greater change and managing multiple stake holders. Target has successfully piloted this in China and is working on global rollout. The results have been highly encouraging, providing benefits in terms of reduced TLC with savings in taxes and in-land transportation costs.

C. Gateway Network Balancing

Retailers like JC Penny have reported successful diversion of close to 30% container volumes from west coast to east coast while trying to balance the loads across various ports. Other retailers such as Target and Home Depot have also been working on this initiative. This practice will help in addressing the gateway capacity constraints and supports maintaining a faster trade lane from sourcing countries to stores.

D. Transport Collaboration

Multi-channel Retailer, Williams-Sonoma has reported multi-million dollar savings by better collaboration with ocean carriers. They reported reduction in bid process from months to weeks while the freight costs were reduced by 4-5%. This requires retailers to come up with better forecasts (shipment forecasts) and a better execution system comprising of solutions for MQC and Ocean Equipment Ordering (OEO). It helps reduce the penalties due to non adherence to MQC and provides with greater visibility.

E. Visibility Solutions

Fashion Retailer Liz Claiborne has reported reduction in transit times (by 7-10 days) and improvements in operational efficiencies with investments in visibility solutions. While reduction in lead

time is not a certain benefit, visibility to bookings information and visibility to shipment/ container/ vessel information, aid in informed decision making towards managing various events in the international trade logistics. Hence many leading retailers have initiatives to address supply chain visibility challenges.

F. Vendor On-Boarding Process & Consolidator Buy-in

Given the magnitude of change involved in initiatives such as ‘Implement FCA term of sale’, retailers/ importers need to develop vendor on-boarding process in line with required volumes under FCA term (volume penetration is aligned towards delivering the Business Case) [2]. A too aggressive penetration plan is likely to fail, as It involves re-negotiation with the vendor and implementing the changes across logistics partners and in IT systems[8]. Consolidators need to be involved in the entire process, right from initial business process definition phases. Their buy-in for the new process and new systems is critical to success, as they are the custodians of the new process in their geography who needs to in turn drive this change with vendors.

VIII. IT Solutions

There are a host of commercial off-the-shelf transportation management (TMS) applications available in the market; even after a good amount of consolidation that has happened in last couple of years. I2 Technologies, Manugistics (now part of JDA), G-Log (now part of Oracle) are some of the leading vendors while the international trade logistics space is dotted by several small vendors. The value from niche vendors is very promising; while, customers have less choice, if they would like to opt for maintenance hassle-free integrated solution. This has resulted in customers opting for custom developed solutions; which are primarily opted for their lower cost; and probably, better suited client specific functionality.

IX. Recommended Solution Components

The illustration below summarizes the key solution components for an overseas transportation solution and the functionality that the components should support:

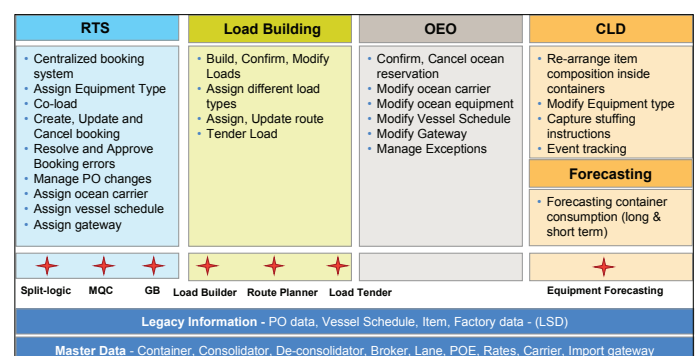


Fig. 3: Solution Architecture

Legend to above figure:

★	Optimizer/System Intelligence	CLD	Container Load Details
RTS	Ready To Ship System	GB	Gateway Balancing

X. Conclusion

Retailers should weigh their options for possible control over inbound transportation as part of their global sourcing strategy, towards cost efficient transportation operations. Consideration for the best practices outlined and recommended solution would help in balancing the working capital requirements and costs, and would provide with the competitive advantage of agility in the supply chain- faster trade lane from source to consumer.

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