



SUPPLY CHAIN AND LOGISTICS BASICS

A resource guide covering the basics, terminology,
and things to consider when starting your journey
into supply chain and logistics.

Managing your supply chain

is critical to running and growing your enterprise, regardless of what you make or buy and deliver to your customers. The skillful management of your logistics and transportation activity is especially important in a global environment, where you will be sourcing, marketing, and delivering products across international borders. In a global environment, the level of complexity, regulation, and potential cost can make or break the success of a company whether it is a start-up or an established player.

A **supply chain** is the system of organizations, people, activities, information and resources involved in moving a product or service from supplier to customer. Supply chain activities transform raw materials and components into a finished product that are delivered to the end customer.

Logistics refers to activities that occur within the boundaries of a single organization. Logistics is focused on activities such as procurement, distribution, maintenance, inventory management, and transportation. Logistics activities are key elements to a supply chain's performance.

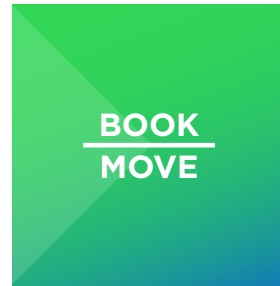




When effectively managed, logistics becomes a source of value and creates a competitive advantage, helping your company grow.

To succeed, your company will need the skill and expertise to take care of moving products around the world, while keeping costs and risks contained so they do not become an obstacle to your future growth.

We have created this guidebook to help get you started. We have organized the document into sections by topic to cover some of the most important issues in global logistics and transportation.



PLAN

All of the activities involved in deciding how to meet your supply and demand needs. It includes putting everything in place to ensure that your shipments will move as planned, in full compliance with regulations, and with minimal intervention necessary when they depart or arrive. Essentially, doing the preparation work upstream to avoid complications or delays downstream.

SOURCE/MAKE

All of the activities needed to purchase (source) or manufacture (make) the goods you intend to sell to your customers, including raw materials, components, and finished goods. It covers identifying and interacting with suppliers. It also includes setting up and executing the transactions that will set supply chain flows in motion, like settling on the right shipping terms and currencies.

BOOK/MOVE

Covers packing and shipping goods by air, sea, or road, dealing with risks in transit, and clearing shipments through customs. Since many global logistics activities are performed by 3rd party providers, it also includes selecting and working with them. From a logistics perspective, this is the phase in which most of the action happens, but it only goes smoothly when the other phases are done right.

DELIVER

This phase includes the final activities needed to get products ready and delivered to your customers. Managing diverse sales channels, warehousing, distribution, and delivery functions fall within this stage.

These steps are adapted from the Supply Chain Operations Reference (SCOR) model, developed in 1996 by the [Supply Chain Council](#), now part of [APICS](#)

MAJOR LOGISTICS AND SUPPLY CHAIN RELATED TOPICS

PLAN

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PLAN

SUPPLY CHAIN MANAGEMENT

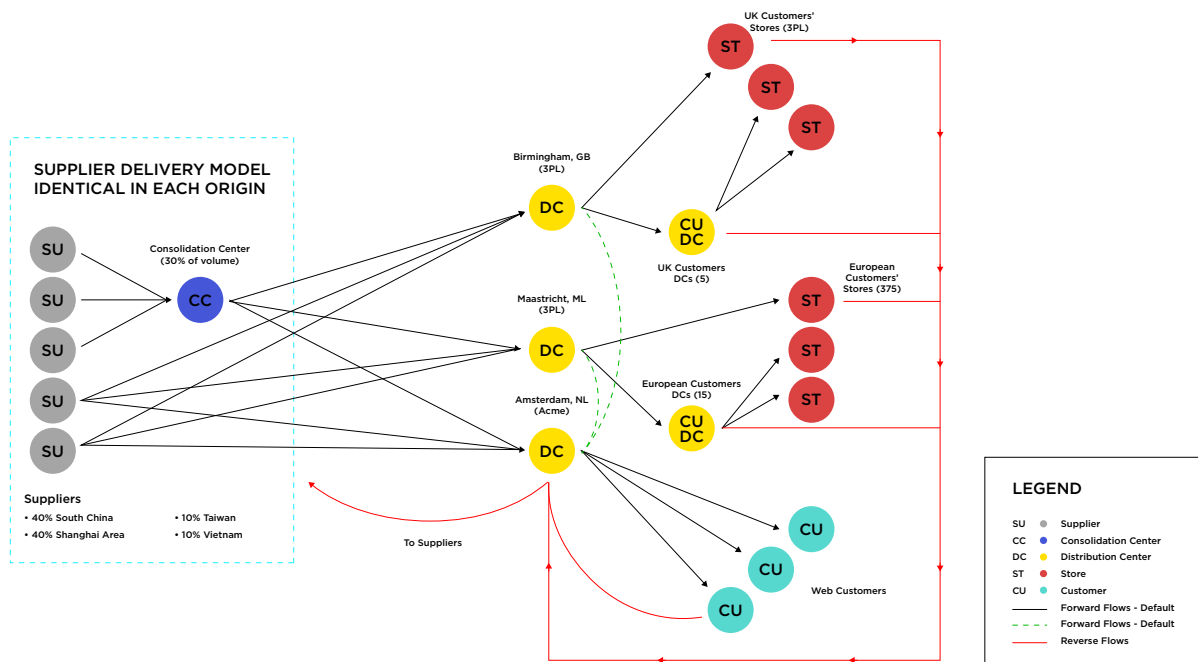
BACKGROUND

Supply chain management is a growing field, becoming more widespread and complex all the time. Due to the increasing importance of the supply chain to companies' financial performance, supply chain management has become a skill and expertise that is in great demand. Typically, many of these activities are outsourced to experts and consultants. As you design, operate, and optimize your network, you will encounter situations where you would benefit from innovative supply chain solutions to challenges, whether those solutions come from internal resources, or from external providers and consultants.

KEY CONSIDERATIONS

NETWORK DIAGRAMMING

Visually mapping your network, including suppliers and customers, is a good way to identify flows, nodes, and potential trouble spots, or places where you could implement a process improvement. As you seek to understand your supply chain, visually mapping is a great first step.



SUPPLY CHAIN MANAGEMENT

SUPPLY CHAIN MODELING (BASELINE, FORECASTING, WHAT-IF SCENARIOS)

It can be very difficult to measure the impact of any particular decision on overall supply chain performance in the real world. Even when you can clearly see the impact of a decision like changing modes, or increasing lead times, it is often too late to change it if it did not work. Effective supply chain managers use data models to create a realistic baseline of their network and its cost. They can then “run” operations virtually and forecast what will happen in the future, or test the effects of multiple scenarios before they make drastic changes. This is one way that you can use technology to predict the impact of your supply chain decisions.

NETWORK DESIGN

The goal of supply chain management is to provide the best service, to the most customers, at the lowest total cost. One way that you can improve your chances of reaching that goal is to design your physical network to maximize these outcomes. You should determine the optimal number of physical nodes and their locations, sizes, and activities, using systems and outside help where needed.

PROCESS & FLOW DESIGN

The supply chain consists of both the physical network, as well as the flows of data, goods, and money within it. You should design, document, and continuously improve processes so that they work efficiently now, and so that they will sustain your company’s growth over the long term. Just as with the physical network, you should design processes using a combination of internal resources and external expertise.

PRODUCT SELECTION, PRICING, AND COST MANAGEMENT

BACKGROUND

Products shipped internationally are subject to additional taxes, regulatory restrictions, transportation infrastructure constraints, and other challenges that would not apply to domestically sourced products. When you calculate how to price your products, where to source them, and how to manage costs associated with delivering them it is essential to take into account the complete “landed cost” of each unit, the feasibility of shipping, and all compliance costs you will have to bear.

PRODUCT SELECTION, PRICING, AND COST MANAGEMENT

KEY CONSIDERATIONS

COUNTRY VARIABILITY

Sourcing countries and locations vary widely in terms of shipping costs, free trade program eligibility, import quotas, etc. Consider whether shipping from the source location in question will add costs, lead time, or compliance burdens to your company.

EFFECT OF CONSTRUCTION ON COMPLIANCE DETAILS

Product components, construction, and assembly methods have significant impacts on country of origin, tariff classification, and duty or tax rates. Since an unexpected duty rate can eliminate margins and create losses, you must understand how your planned product will be categorized for customs purposes.

PRODUCT-RELATED RESTRICTIONS

Constraints related to the product itself will impact how and where products can be shipped. Make sure you understand any restrictions on shipping, like haz-mat handling, US export controls, quotas, etc., between your suppliers and customers. Be aware that certain modes of transportation, packaging materials, destinations, or consignees are not permitted for certain types of product.

RELATED-PARTY TRANSACTIONS

Most countries require the importer to declare an arms-length price paid to the exporter, and they use that price to calculate duties and taxes. Transactions between related parties, such as a parent and subsidiary or two companies with the same owners, can complicate the issue. You may need to adjust invoice prices in order to declare the legally required import value. Consider whether any of your suppliers are related parties and factor in any price adjustments you will need to make for margins, assists, discounts, etc.

PRODUCT SELECTION AND CONFIGURATION

Packaging issues, like carton shape or size, exterior packing, stackability, etc., can have significant impacts on transportation cost and availability. When choosing products and suppliers, consider how they will be packed for transport. Ask questions like, is the packaging sturdy, does it use space efficiently, and will the dimensions affect shipping costs?

METHODS OF PAYMENT



BACKGROUND

Supply chains consist of the movement of information, products, and payment. It is important to understand that you have a choice of methods by which you will pay your suppliers, and your customers will pay you. Each of the basic methods has numerous sub-types, and each one has different features and benefits.

METHODS OF PAYMENT

KEY CONSIDERATIONS

AVAILABLE PAYMENT METHODS

Traditionally, there are several major types of payment methods in international transactions. Each one typically provides a different level of security, in exchange for simplicity. They include:

- **CASH IN ADVANCE.** You require that your customers pay you prior to delivery or shipment. They can do this per transaction or by funding an account from which you deduct. This provides the highest security for the payee but the least simplicity.
- **OPEN ACCOUNT.** You deliver to your customers without payment in advance, and send them an invoice, which they pay based on the payment terms agreed in advance (net 30 days, for example).
- **LETTER OF CREDIT (L/C).** A bank issues a document that guarantees payment to the seller for goods as long as they meet certain criteria, which are spelled out in the L/C. Criteria might include how, when, and in what condition, goods are shipped to the customer. This method provides a high degree of security, but it can be complex to set up, and it usually requires original documents.
- **BANK PAYMENT OBLIGATION (BPO).** This is a newer method of payment in international trade. It is an irrevocable obligation, also issued by a bank, to pay the seller as long as specific data requirements are met. Unlike an L/C, a BPO relies on data and uses an open account, as opposed to original or negotiable documents.

BILLS OF LADING

A Bill of Lading is a document that accompanies the shipment to you or your customer. It is both a receipt for the goods from the carrier, and a contract to deliver the shipment. As a contract, the bill of lading will specify information such as quantity, description, shipper and consignee, delivery address, cost of transportation, etc. While there are several types of bill of lading, the two most important kinds to remember are:

- **ORIGINAL BILL OF LADING (OBL).** An OBL is issued by the shipper, is usually sent separately from the shipment, and is given to the buyer only when they have paid for goods. An OBL is a negotiable document, which entitles the bearer to receive the shipment from the carrier. These should be treated like cash. An original is required to receive the shipment from the carrier.
- **EXPRESS (OR STRAIGHT) BILL OF LADING.** This document describes the shipment and specifies the parties involved in the transaction. It is non-negotiable and is normally used when payment is made by a method other than an LC (like open account). An original is not required to receive the shipment from the carrier.

TRADE REGULATIONS AND COMPLIANCE – UNITED STATES

BACKGROUND

Shipping internationally requires a new and different set of requirements than domestic trade. Broadly speaking, these regulations are enforced by United States Customs & Border Protection, on the import side, and by the United States Department of Commerce on the export side. Different agencies, known collectively as “Partner Government Agencies,” also enforce regulations governing the shipment of specific commodities. For example, imports of medical devices are regulated by both Customs and the United States Food & Drug Administration. Exports of military commodities are regulated by both Commerce and the United States State Department. Exports of commercial or dual-use items are regulated by Commerce. Because it is impractical to stop and inspect every shipment, agencies that regulate trade place the responsibility for knowledge and compliance on the importer or exporter. For this reason, when you begin importing or exporting goods in the United States, it is vital that you understand the rules that apply to you and that you have procedures in place to comply with them.

KEY CONSIDERATIONS

BASIC REQUIREMENTS OF AN IMPORTER

Under US law, importers are required to exercise reasonable care and perform informed compliance, using information provided by Customs & Border Protection, in meeting trade regulations. At a very basic level an importer will need to accurately determine, declare, and maintain:

- a. Commercial Invoice Requirements, or 19 CFR 141.86 Contents of Invoices and General Requirements
- b. Customs Value
- c. HTS Classification
- d. Country of Origin
- e. Trade Preference (free trade agreements and other reduced duty programs)
- f. Anti-dumping/Countervailing Duties
- g. Requirements of approximately 40 other government agencies

Import regulations vary by country, but the essential responsibilities of the importer are very similar amongst member countries of the World Trade Organization (WTO).

TRADE REGULATIONS AND COMPLIANCE – UNITED STATES

BASIC REQUIREMENTS OF AN EXPORTER

Jurisdiction over export regulations under US law varies somewhat by product, so it could belong to the departments of Commerce, State, and/or Treasury. Regardless of the agency, exporters must exercise due diligence, in knowing and complying with export regulations as part of an Export Compliance Program (ECP). At a very basic level an exporter will need to accurately determine, declare, and maintain:

- | | |
|---|--|
| a. <u>Export Value</u> (and other required Export Information data elements) | f. <u>Export Licensing Requirements</u> |
| b. Export Commodity Jurisdiction | g. Schedule B classification (HTS Classification can be used in lieu of Schedule B) |
| c. <u>State Department DDTC</u> | h. Embargoes and Sanctions (List of Countries of Concern – <u>OFAC</u> and <u>EAR</u>) |
| d. <u>Commerce Department BIS</u> | i. <u>Denied or Barred parties</u> (on the Lists of Parties of Concern) |
| e. <u>Export Control Classification Number</u> (ECCN) (found in <u>CCL</u> and used for the license determination purposes) or <u>USML Classification</u> (found in ITAR) | |

At the top of the list of key steps you should take with every export shipment is to ask the following questions

- | | |
|---|---|
| 1. What is the item being exported (i.e. how is it classified)? | 6. Determine the export <u>Jurisdiction</u> (i.e. does State or Commerce regulate this export)? |
| 2. Where is the item ultimately going? | 7. Identify the classification (i.e. how is the item listed in the <u>CCL</u> or <u>USML</u>)? |
| 3. Who will be the end-user of the item? | 8. Conduct a <u>License determination</u> (i.e. is an export license required)? |
| 4. What will they do with the item? | |
| 5. What other functions or activities does that user perform? | |

BROKER/FILER RESPONSIBILITIES

Most shippers use customs brokers or export filers to submit import and export declarations on their behalf. These providers are very effective because they normally have systems dedicated to preparing and submitting government declarations in an efficient, cost-effective, and compliant manner. Regardless, it is important to remember that a broker or filer does not replace the shipper's obligation to determine compliance information. Like income tax preparers, brokers must accurately and faithfully declare the information given to them by the customer. They have compliance and record-keeping responsibilities of their own, which are separate from and do not replace the responsibilities of the shipper. US Customs & Border Protection publishes detailed information on Customs Brokers.

DOCUMENTATION AND RECORD-KEEPING



BACKGROUND

As an importer or exporter, you will be responsible for keeping records to document each transaction, and each declaration you make to the government. Common lists of records and retention periods may be available to help you, but as a general rule you should retain every document that supports any of the information in a declaration, for at least as long as the required time stipulated by the governing regulatory agency.

DOCUMENTATION AND RECORD-KEEPING

KEY CONSIDERATIONS

RECORD-KEEPING REQUIREMENTS FOR IMPORTS

- a. Read the Informed Compliance Publication on Record-keeping
- b. The “(a)(1)(A) list.” (a)(1)(A) is an appendix to 19 CFR part 163 in the federal customs regulations for importers. It is a summary of your responsibility under customs law and not a list per-se itself. You can use it as a guide to create your own list of required records, which could include:
 - Evidence of right to make entry - airway bill/bill of lading or carrier certificate
 - Declaration of entry - form 3461 and form 7501
 - Power of attorney
 - Commercial invoice
 - Packing list
 - Bond information
 - Vessel, Vehicle or Air Manifest (filed by the carrier; you as the importer may not see or receive this)
 - Specific Records Required for Special Trade Programs like Free trade agreements, GSP, U.S. Goods Returned, etc.
 - Records required by participating government agencies (e.g., Fish & Wildlife, FDA, FCC)

RECORD-KEEPING REQUIREMENTS FOR EXPORTS

- a. BIS Export Administration Regulations (EAR) Record-keeping Requirements include the following export control documents:
 - Memoranda, notes, and correspondence
 - Contracts
 - Invitations to bid
 - Books of account
 - Financial records
 - Restrictive trade practice or boycott documents and reports
 - Notifications from BIS and,
 - Other records pertaining to the types of transactions described in §762.1(a) which are made or obtained by a person described in §762.1(b) of this part
- b. The Census Bureau Foreign Trade Division Record-keeping Requirements include the export transaction documents:
 - Commercial Invoice
 - Electronic Export Information (EEI) filing
 - Shipping documents (bill of lading, air waybill, etc.)
 - Orders (PO, SO, etc.)
 - Packing list
 - Correspondence
 - Any other relevant information bearing upon a specific export transaction at any time within the five year time period

DOCUMENTATION AND RECORD-KEEPING

METHODS, PERIOD AND LOCATIONS

- a. Unless you have adopted an approved alternate record-keeping method, following the applicable regulations, you must keep records in their original format, whether paper or electronic. Details are in the regulations specific to your records.
- b. Generally speaking, both import and exports records must be maintained for at least five (5) years from the date of import, export, or the activity which created the document. You should identify the required retention periods for each document and keep it for the longest of these.
- c. Records do not have to be maintained in a specified location, but they must be kept in a clear and legible format, and you must be able to produce them timely if they are requested by a governing agency.

INDEXING AND ACCESSING RECORDS

In order to produce, inspect, or reference documents for an import or export, index them using several references (e.g. PO number, entry number, date, EEI number, etc.), and keep them in a location where they can be retrieved quickly and easily (e.g. stored electronically on external drives, in a secure cloud location or file server).

AUDITING TRANSACTION RECORDS AND FOLLOW UP

Keeping detailed records on import and export transactions is important because it enables the implementation of an audit process. Auditing a significant sample of transactions, to ensure that information is correctly declared, is a vital part of a trade compliance program. When errors are identified, you should correct the relevant transactions in addition to implementing preventive actions. Agencies that regulate both imports and exports have processes for voluntarily disclosing information and correcting declarations.

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Working with Expeditors has enabled us to leverage their global network to support our rapid growth and changing needs. Their local support wherever we need it helps us get things done quickly and the right way, and provides compliance expertise.

Ligon Johnson
Parachute

SOURCE

MAKE

SOURCING STRATEGY

BACKGROUND

At this point you will most likely have already formed your company's sourcing strategy, ensuring that you are able to consistently meet the criteria of adequate quality, competitive pricing, and supply availability. Sourcing internationally brings additional factors into this equation, however, which will influence the strategy and which you may not have fully considered. Transportation, logistics, and trade regulation introduce additional variables you need to include in your sourcing strategy.

KEY CONSIDERATIONS

LOCATION CONSIDERATIONS

If you have identified suppliers, you may already have considered whether there is a well-developed industry, and established vendors in the country or location you are evaluating. In addition to the right suppliers in terms of quality and price, other factors to consider are climate patterns, transportation infrastructure, raw material availability, distance from customers, etc. Keep in mind that the sourcing location with the lowest ex-factory cost may not end up giving you the lowest all-in landed cost in your destination country.

SUPPLY RISK CONSIDERATIONS

International networks can have more supply risks than domestic ones. It is important to identify multiple suppliers, preferably in different locations. You can mitigate risks such as natural disasters, political or labor strife, war, and transport delays by having more than one supplier from which to source. These considerations also apply to raw material, or tier-two, suppliers.

INFLUENCE AND CONTROL OVER VENDORS

Issues such as relative size, experience, competitors, and Incoterms®, can affect how much influence you have on vendor responsiveness, service level, order/booking compliance, etc. Consider whether relative experience in global trade will help or hinder your ability to source effectively in difficult conditions. Logistics providers with personnel in the vendors' locations, and vendor or order management services, can be beneficial.



SHIPPING (TRADE) TERMS

BACKGROUND

Every international transaction involves multiple steps, costs, changes in ownership, and risks. Before beginning any transaction, the buyer and seller should agree on the terms of the shipment, so they are clear about who pays for each step, who chooses providers, and who bears the risk of damage, among other things. Ambiguity about any of the terms in a complicated shipment is an invitation for trouble when things do not go as planned. If you do not know whether or not the unit price includes international transportation, for example, you may be surprised to find that you have to pay for it. If you do not know who bears risk, and a shipment is lost at sea, you may end up in a dispute with your supplier over who has to pay to replace it.

KEY CONSIDERATIONS

INCOTERMS®

In order to avoid confusion, or the need to negotiate detailed terms for each order, international buyers and sellers typically use a common standard. This allows them to apply a term, which defines responsibility for each phase of a shipment, in clear language both parties understand. The most commonly used set of uniform shipping terms in use today is called the “ICC Incoterms®”, updated in 2020 by the International Chamber of Commerce.

IMPACT OF TERMS

The Incoterms® you and your business partners choose will determine who pays, and who is responsible, for each phase in the transportation of goods from origin to destination. It is very important that you and your business partner both know and agree on the Incoterms® that apply to every order or shipment. The parties should clearly document the Incoterms® in transaction documents, such as a contract, sales order, purchase order, or commercial invoice. This will make shipments move more smoothly and cost-effectively, and will help avoid disputes and disagreements should anything go wrong.

SHIPPING (TRADE) TERMS

COMMON TERMS AND MEANING

Incoterms® cover a spectrum of responsibility from the buyer to the seller, indicated by the first letter of each term. Terms beginning with “E” place the most responsibility on the buyer. Terms beginning with “D” emphasize the seller. In between these are the “C” and “F” terms. While there are 11 trade terms listed in the ICC Incoterms® 2020, among the most common ones used are:

- **EXW (EX WORKS).** The seller makes the goods available to the buyer at a named place, which is usually the seller’s own warehouse or factory. The seller is not responsible for any cost or risk once they have made the goods available to be picked up. Nothing is included in the price other than the unit cost of the goods. EXW is an “omni-modal” term; it can be used for any mode of transportation.
- **FOB (FREE ON BOARD).** The seller is responsible for clearing the goods for export and loading them onto the vessel at the port of shipment. Once the goods are cleared and aboard, the buyer is responsible for all costs and risks. FOB is intended only for ocean or inland waterway shipments but it is often also used for air shipments, which can lead to confusion. FCA (Free Carrier) is the preferred “F” term for air shipments.
- **CIF (COST, INSURANCE, AND FREIGHT).** As the definition implies, under CIF, the price includes the cost of goods, as well as insurance and transportation (freight) to the named port – usually the port of destination. It is important to note that, even though the seller pays for insurance, the risk of loss passes to the buyer as soon as the goods are on board the vessel. CIF is intended only for ocean or inland waterway shipments.
- **DDP (DELIVERED DUTY PAID).** This Incoterm® places the most responsibility on the seller, who is responsible for all cost and risk until they deliver the goods to a named place, cleared for import and duty-paid. Essentially all costs to deliver the goods are included in the transaction price.

FOREIGN CURRENCY TRANSACTIONS

BACKGROUND

In international transactions, the buyer and seller typically operate their business using different currencies. For example, a seller in the US conducts business in US Dollars, and his buyer in France conducts business in the Euro. Despite using different currencies in the normal course of business, the buyer and seller need to agree on a single currency to settle any transactions between them. For at least one party, this means they will execute the transaction in a currency different from their own. In order to settle the purchase, they will need to convert it into their own currency by either buying currency to pay or by selling currency to receive payment.

KEY CONSIDERATIONS

FLUCTUATIONS IN FOREIGN EXCHANGE RATE

Between the time the sale is agreed to, and the time the transaction is completed, the exchange rates of the currencies chosen may fluctuate. In this case the buyer will either pay more, or less, than they were expecting to at the time they agreed to the transaction. Fluctuations in foreign exchange rates can be unpredictable, they can cause unexpected gains or losses, and they become more likely the longer the payment terms are.

CURRENCY RISK

Exchange rate fluctuations create the risk of financial loss for both parties, when they cause the settlement price to differ greatly from the initially-agreed transaction price. Buyers and sellers in international transactions typically try to reduce currency risk by including a margin to cover the risk, or by settling the transaction in their own currency.

SELECTION AND DOCUMENTATION

Due to the potential risk of loss, both parties should specify the settlement currency, the exchange rate, and any margin in transaction agreements, like the sales or purchase order. Since currency risk also applies to transportation, it should also be stipulated in logistics provider fees and rates.

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When launching our first product, there is always a lack of internal resources. Working with Expeditors has provided us a global platform enabled by their expertise, technology, and network that was crucial in delivering our products to our customers.

|

*Michael DeJesus,
Director of Supply Chain & Logistics
Automatic Labs*

BOOK

MOVE

SELECTING LOGISTICS SERVICE PROVIDERS



BACKGROUND

Most shippers do not own and operate their own transportation assets, like planes and ships, or even functions like customs clearance or booking. To a greater or lesser degree, companies use service providers to transport goods because it is more cost effective, simpler, and more flexible. Service providers in the transportation industry go by various names, depending on what they do, like forwarder, broker, NVOCC, carrier, booking agent, etc. It is important to partner with service providers who can provide the technology, geographic coverage, customer service, pricing, and innovation needed.

SELECTING LOGISTICS SERVICE PROVIDERS

KEY CONSIDERATIONS

BASIC TYPES

Shippers generally decide between using asset-based carriers, like a steamship line, or a third party logistics provider (3PL) like a forwarder, NVOCC, or a broker. The choice will depend on your need for flexibility, competitive pricing, and value-added services. Generally, larger shippers with higher volumes and more internal resources would use a carrier directly, and shippers with lower volumes or more complicated needs, that are not met internally, would use a 3PL.

GEOGRAPHIC COVERAGE

Logistics service providers differ in their level of geographic coverage. Some are global, while others operate on a regional or local basis. As a shipper, the key consideration is that the entire geographic area in which you need services should be covered by the same provider, so that gaps in coverage are limited and systems, procedures, and processes can be streamlined as much as possible.

SCOPE OF SERVICES

Logistics providers offer a very wide variety in scope of services. Scope of services can be broken down based on various factors, like geography – international vs domestic, mode – air vs ocean vs road, function – transportation, customs, distribution, supply chain consulting, etc. When evaluating service providers, look for ones that offer as many of the specific services, modes and locations needed.

OTHER CONSIDERATIONS

Due to of their importance to your company's supply chain, and since what they offer is a service rather than a commodity, there are other factors to consider in addition to price. Consider things like local expertise, technology, and innovation, in addition to price, in order to understand the true cost and value of each service provider.

PARTNERSHIP MODELS

In addition to the attributes of an individual service provider, consider how your company will partner with and work with them. Models range from a single source to using multiple providers for each service and location. Likewise, partnerships can range from strategic ones, where the provider is a “trusted adviser,” to tactical ones, where the provider is a transactional vendor. The model you choose depends on your need for a “one stop shop” or multiple vendors to procure, manage and pay.

PRODUCT PACKAGING

BACKGROUND

The packaging opened by the end customer when they purchase a product is usually different from the packaging required to ship the same product internationally. In the first case, the packaging will focus on appealing to the customer, explaining the product's features, and making it look attractive. In many ways, packaging for international shipment has the opposite goals. It is intended to protect the product from damage, make it cost-effective to ship, and conceal the contents from potential cargo thieves.

KEY CONSIDERATIONS

RISK OF DAMAGE IN TRANSIT

Shipping a product over long distance, involving several carriers, comes with an inherent risk of damage. Products can be harmed by moisture, handling, equipment (like forklift blades), exposure to the elements, crushing, dropping, etc. They can also be stolen or deliberately manipulated. When you choose packaging to ship products overseas, understand and account for the risks it will face during its journey to the customer, and select materials designed to minimize those risks.

INNER VERSUS OUTER PACKAGING

Products shipped internationally typically have both inner and outer packaging. Inner packaging is usually how the product will be delivered to the end customer (whether that's a consumer, a retailer, or a manufacturer). Outer packaging is normally much more durable and plainer. It is how the product will be delivered to the carrier and will protect the inner packaging, as well as the product itself, from damage in transit. Outer packaging can consist of cases, cartons, crates, shrink-wrapped pallets, drums, etc.

STACKABILITY, LOADABILITY, AND TRANSPORTATION COST

In addition to protecting product from damage, you should also consider the effect of outer packaging on the ease of loading your product into conveyances or vehicles, as well as on the cost of shipping it. Dense, evenly shaped packages, which can withstand stacking, are more cost effective to ship than fragile, irregular, packages with empty spaces. Furniture shippers (especially big-box retailers) for example, typically ship their products disassembled and packaged in flat-pack boxes. This method makes it more practical to stack and load furniture into ocean containers without wasting space. It also makes shipping more cost effective by increasing container utilization (the percentage of a fixed-rate ocean container loaded with cargo, and not empty).

MODES OF TRANSPORTATION



BACKGROUND

Several transportation methods are available to international shippers, including airfreight, ocean, road, and rail. Collectively they are referred to as “modes of transportation.” The mode you use for a particular shipment will depend on several factors, such as shipment size, required speed, geographical area covered, etc. More than one mode of transportation can be used for a single shipment. For example, goods may be picked up by truck, shipped overseas by ocean, and delivered by truck. In some cases, both airfreight and ocean are used in a single shipment, in a mode called “sea/air.”

MODES OF TRANSPORTATION

KEY CONSIDERATIONS

COST VS SERVICE LEVEL

Generally speaking transportation modes are chosen based on a trade-off between cost and speed (also referred to as service level or responsiveness). Slower modes, like ocean and road, are typically less expensive than airfreight. However, you may need faster and more expensive modes in order to meet the service levels you agree to with your customers. Faster modes may also be required to avoid or mitigate situations like a stock-out, replacing damaged goods or a line going down.

OTHER PERFORMANCE MEASURES

One good way to think about the performance of your supply chain is by applying the APICS SCOR supply chain performance attributes. When you choose a mode of transportation for a shipment, you typically make a trade-off between cost (rates) and one or more of the four other attributes. For example, airfreight is more costly than ocean freight, but it allows you to increase the responsiveness and agility of your supply chain, because you can get product to your customers more quickly, and adapt quickly to external events, like a natural disaster or a surge in demand.

CHOOSING MODE BASED ON NEED DATE

In order to optimize cost-effectiveness, choose the least expensive mode of transportation that will get the shipment to you or your customer when they need it, neither sooner nor later. Doing this requires moving your supply chain process from “as soon as possible” to “when you need the shipment.” The “need date” should be communicated between buyer and seller, and compared with shipping schedules and transit times, in order to select the optimal mode of transportation.

FORECASTING AND PLANNING MODES

When you forecast demand in advance, you can plan orders and shipments to meet demand using the least expensive mode possible. Planned orders will usually account for the total cycle time, including manufacturing lead-time and transit time, so that products arrive on time using the cheapest mode. In some cases however, due to the value or urgency of a shipment, airfreight can be the preferred planned mode. Using slower modes can also increase inventory levels since goods remain in the in-transit inventory, of either buyer or seller, during shipment.

FASTER MODES FOR URGENT ORDERS

No matter how good forecasting and planning is, there will always be situations in which you need to use a faster, more expensive mode to get the shipment where it needs to be. While most routine orders can be fulfilled using ocean freight, you may need to ship smaller orders by air to replace damaged goods, prevent back-orders, or respond to an urgent need like an aircraft-on-ground (AOG) or a promotion. Since your needs can change quickly, it is important to have suppliers, procedures, and rates lined up for all possible modes of transportation.

CARGO INSURANCE



BACKGROUND

Cargo insurance, also called “marine cargo insurance,” is different from other types of insurance. While it helps you manage the risks associated with transporting goods. Marine cargo insurance is an “all risk” coverage and is the broadest form of insurance you can purchase. It provides you with protection beyond the carriers’ legal liability limits. Marine cargo insurance covers any external physical loss or damage to your product. It covers all modes of transportation - air, ocean, truck and rail, and is door to door wherever you have a financial risk.

CARGO INSURANCE

KEY CONSIDERATIONS

BASIC TYPES OF RISK

Since international shipments travel a long distance, are handled by multiple parties, and potentially are exposed to delays, weather and natural disasters, they are subject to several forms of risk. This includes physical damage, moisture, complete or partial loss, delay, theft, etc.

STATUTORY LIABILITY LIMITS WITHOUT INSURANCE

In order to facilitate trade, the carriers (airlines, steamship lines, truckers) limit their liability for lost or damaged cargo as follows:

- a. Air Carriers: 22 SDR's ("special drawing rights") per kilo (approx. \$30.00 per kilo)
- b. Ocean Carriers: \$500.00 per CSU (customary shipping unit, smallest unit you tender to the steamship line, which could be anything from a carton to a full container)
- c. Truck: \$0.50 cents per pound

These limitations are subject to many exclusions and can take up to 45-90 days to collect. The best way to protect against limited legal liability is to purchase marine cargo insurance.

TRANSACTIONAL VS POLICY INSURANCE

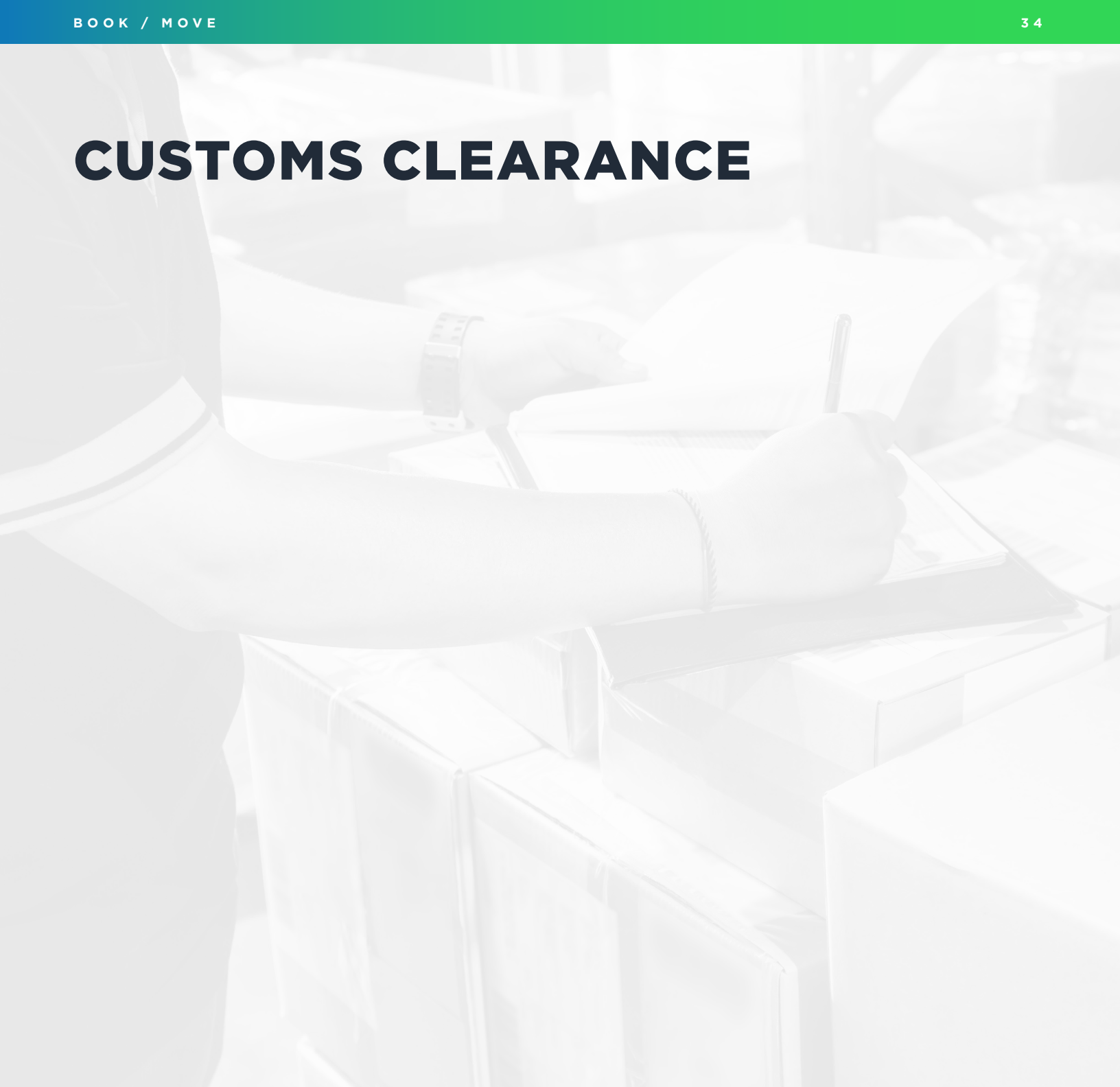
There are a few ways to purchase marine cargo insurance:

- a. Transactional: You can purchase insurance on a transactional basis from your freight forwarder or carrier for each shipment. This is a more expensive way to buy insurance, and the coverage can vary per freight carrier. The benefit is that you pay as you go, with no minimum premium required.
- a. Policy: Buying an annual policy allows you to leverage all your values shipped and get a very competitive premium with broad coverage. It allows you to cover all shipments and select deductible options. You may also be able to file claims and get customer service from a dedicated team that understands your business.

PNCs AND FORMAL CLAIMS

As soon as you notice damage or loss, it is important that you (or your agent) file a Preliminary Notice of Claim with the carrier, in order to secure your right to file a formal claim, and place the burden of proof on the carrier. There is a limited time frame for submitting a PNC, normally stated on the bill of lading or air waybill. Once you submit a formal claim to the carrier, you will need to provide supporting documentation, and the carrier has a specific period within which to resolve the claim by paying or denying it.

CUSTOMS CLEARANCE

A person's hands are shown writing on a document in a warehouse setting. The person is wearing a watch and a bracelet. The background shows several white boxes stacked on a table.

BACKGROUND

The majority of import compliance preparation and planning should be done well in advance of a shipment arriving, as outlined in the Plan section. That includes making decisions about how to classify products, what the country of origin is, and whether any additions or deductions from the commercial invoice value need to be made. Preparing this information well in advance, and providing it to your broker, will expedite the clearance process and limit errors that you need to correct later.

CUSTOMS CLEARANCE

KEY CONSIDERATIONS

ENTRY TYPE

The majority of products imported into the United States are through what is called a “Consumption Entry,” in which goods are cleared into US commerce, duty is paid, and goods can be re-sold, used in manufacturing, etc. There are other types of importation, however, including temporary (in-bond) imports, Foreign Trade Zone (FTZ) entries, etc. Your broker can help you determine which import type is right for your situation.

CLASSIFICATION

When you file a customs entry, each of your products will need to be classified under the Harmonized Tariff Schedule, in order to determine the correct duty rate, as well as other issues like admissibility, eligibility for special trade programs, etc. Your broker should not classify products for you, since they do not have in-depth knowledge about the products. Rather, there are outside consulting firms that can provide these services.

VALUE

Prior to entry, you will need to determine the correct customs value of the merchandise you are importing. This is normally based on the commercial invoice value, as long as the parties are not related, plus or minus certain adjustments. As a general rule, the customs value should approximate the FOB invoice price in an arms-length transaction.

RELATED PARTY TRANSACTIONS

Before you determine the customs value and file an import declaration, you will need to determine if you and the other party to the transaction are “related parties.” Customs generally does not consider a related-party transaction to be arms-length, and you may need to prove that the transaction was at a fair price not influenced by the relationship. If not, you may need to add adjustments to the value such as assists.

COUNTRY OF ORIGIN

Prior to entry, you will need to determine the correct country of origin of the merchandise. As a general rule, this is the country in which the goods were wholly-produced, or in which they underwent a “substantial transformation” and became a new article.

COMMERCIAL INVOICE AND PACKING LIST

Prior to or at the time of entry, you will need to provide your customs broker with the commercial invoice and packing list that came with the shipment. This is in addition to transportation documents, like a bill of lading, air waybill, or carrier certificate.

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We haven't had the luxury of building a team of subject matter experts, so we love Expeditors' seminars and webinars that allow the team to learn the complexities of import/export Industry. Overall, the Expeditors team has tremendous industry expertise and I appreciate how professional and solutions-oriented everyone is.

|

*Marcus Chung,
VP, Manufacturing & Supply Chain
ThirdLove*

DELIVER

DISTRIBUTION CHANNELS

BACKGROUND

At this point you will also most likely have identified your company's sales channels. That choice will directly influence how, when, and by whom you should ship, store and distribute, whether internationally or domestically. The channel - wholesale, retail stores, e-commerce, residential deliveries, etc. - will determine whether you ship full containers or small packages, and whether you deliver to a distribution center (DC), a customer stocking location, or a home. Each of these decisions will require a different choice of mode, order process, shipment cycle, quantity, and carrier selection in order to optimize cost and help you meet performance goals.

KEY CONSIDERATIONS

DELIVERY METHOD

You will need to select a method, and a provider, that will deliver products to the end customer in a reliable, cost-effective, and practical way. For example, shipping full containers to a DC where they can be unloaded and staged for store delivery is feasible for a wholesaler but it will not work for e-commerce home deliveries of one unit at a time. For those, you would need to select a carrier that handles ground or air small packages and final mile deliveries.

NETWORK AND DELIVERY LOCATION

Channel selection will determine the type of physical logistics network that supports it. If you ship wholesale and deliver full containers at the port, for example, you may not need a network of stocking locations beyond your suppliers or shipping plants. If you ship retail or e-commerce to many locations, on the other hand, you may need to build or use a network of warehouses, DCs, and cross-docks, in the right combination.

WAREHOUSING AND DISTRIBUTION

BACKGROUND

In order to meet customer demand and fulfill orders, either internationally or domestically at some point you will need access to a [warehousing and distribution](#) facility or network. Various different operations are performed within such a facility, such as fulfilling orders, processing returns, meeting customer specific delivery requirements or a variety of other value-added services. Warehousing and distribution operations can either be wholly-owned, in which your company operates and staffs the facility, or a 3rd party, in which a service provider takes care of the responsibilities for a fee. They can also be a blend of the two. The key point is that, since it is rare to deliver shipments directly from the air or ocean carrier to your end customer, you will most likely need to think about your arrangements for fulfilling orders through a warehouse. Your inventory is precious and the lifeblood of your company; the efficient operation and control of your facility and its contents normally requires a warehouse management system (WMS) to adequately manage, control and financially account for it.

KEY CONSIDERATIONS

SERVICES AND TYPES

Many different services are performed in different types of warehouses – from storage to pick/pack to cross-dock. The services you use will depend on your needs, your internal capabilities, your production and sourcing model and your customers. Some of these are listed below:

- a. Order fulfillment services: retail store replenishment, e-commerce, pick/pack, kitting, and seasonal promotions.
- b. Specialized programs: Vendor Managed Inventory (VMI), spare parts management, and returns processing.
- c. Direct delivery programs: cross-dock, and upstream fulfillment.
- d. Value-added services: product inspection, labeling, localization and final assembly.

LOCATION IN SUPPLY CHAIN & CUSTOMER NETWORK

Just as there are many types of warehousing and distribution facility activities, there are many considerations for where to locate them and how many you should have. You will want to position inventory in facilities so that they allow you to fill customer orders, within the agreed service levels, cost-effectively, no matter where the customer is located. A determination of what inventory to place in what facilities is an important one that affects customer experience, cash flows and administrative complexity.



SO, WHAT'S NEXT?

Expeditors can provide transportation, logistics, and consulting services to help you evaluate and manage the issues outlined in this guidebook, including complex areas like risk management and supply chain solutions.

We are always here to help.

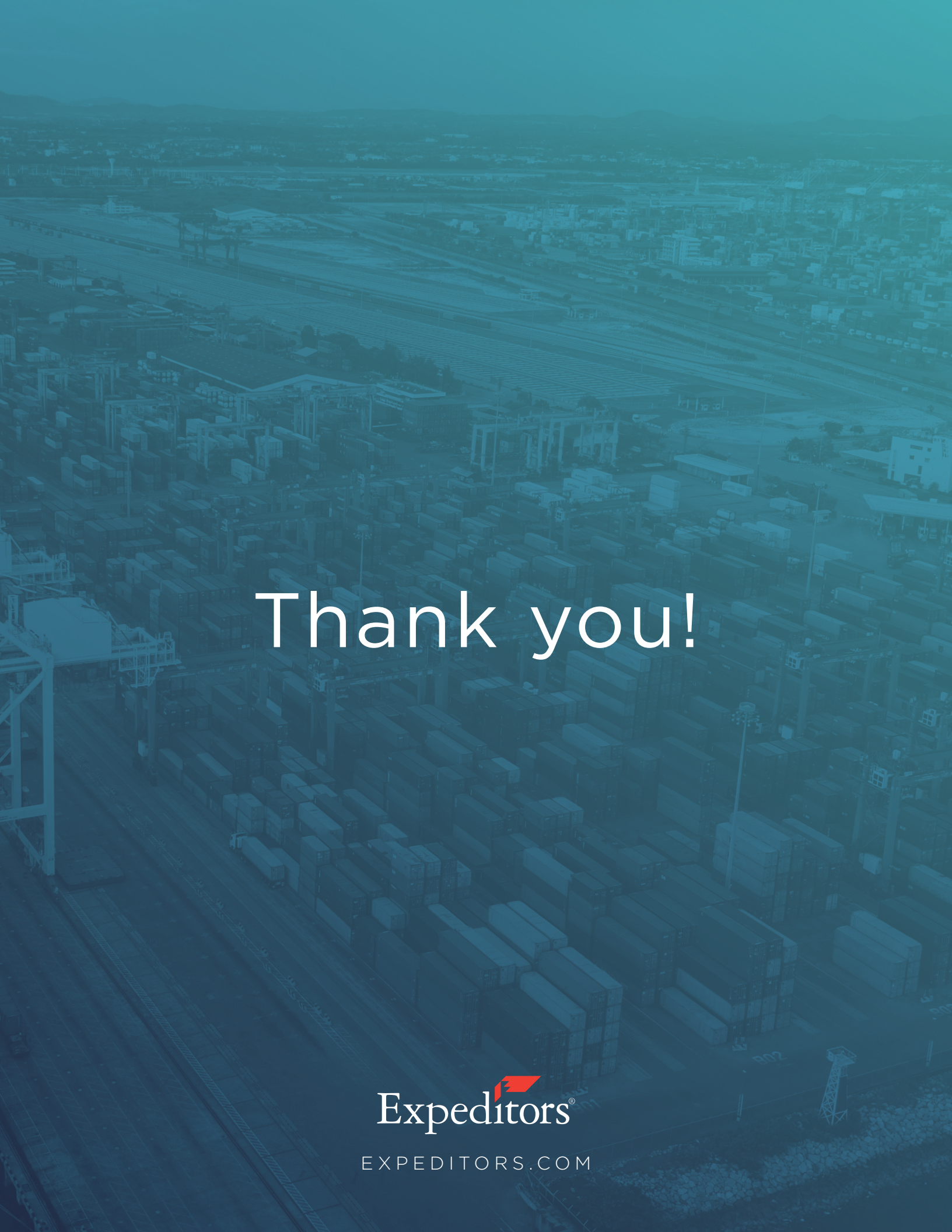
To find out how we can help and what we offer, reach out to startups@expeditors.com.

FURTHER READING

Here are some ways that you can continue to learn more about logistics, transportation, and compliance through websites, books, seminars, etc.

Reach out to our team for any additional resources needed.

- a. [ICC website](#), books, Incoterms®, courses
- b. World Trade Press [Dictionary of International Trade](#)
- c. US Customs & Border Protection “[Tips for New Importers and Exporters](#)”
- d. US Customs & Border Protection [Informed Compliance Publications](#)
- e. US Customs & Border Protection [Trade Outreach webinars](#)
- f. Commerce Department [Bureau of Industry and Security Export Seminars](#)
- g. State Department [Directorate of Defense Trade Controls outreach and support](#)
- h. United States International Trade Commission (ITC) [Harmonized Tariff Schedule](#)
- i. [Expeditors events and seminars](#)
- j. Expeditors [Trade Resources](#), including whitepapers and case studies
- k. [Tradewin Seminars](#)



Thank you!

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