

# The Growing Interest in Logistics Hubs in China

*Creating More  
Efficient Logistics*



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# **TOMPKINS**

A S S O C I A T E S

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## About Tompkins Associates

Tompkins Associates designs and integrates global end-to-end solutions for companies that embrace supply chain excellence. For more than 30 years, Tompkins has evolved with the marketplace to become the leading provider of global supply chain services, distribution operations consulting, technology implementation, material handling integration, and benchmarking and best practices. Headquartered in Raleigh, NC, the company is known for innovative, practical solutions that improve supply chain performance and produce value-based results. For more information, visit [www.tompkinsinc.com](http://www.tompkinsinc.com).

## Executive Summary

Over the last 10 years an increasing focus has been placed on manufacturing and sourcing in China. More recently, rising costs have resulted in a greater focus on improving the flow of goods from manufacturers and suppliers in China to improve supply chain performance and reduce costs.

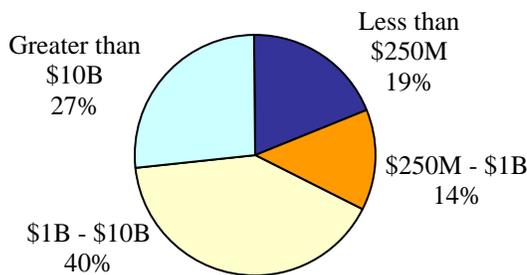
Significant opportunities exist to reduce both capital and operating expenses through the use of effective logistics strategies. For the companies that are manufacturing and sourcing in China, one strategy is gaining momentum: "hubbing." In this report, hubbing is defined as the process of bringing together products from multiple suppliers or origins to build larger shipments to a single destination. Hubbing may also be combined with bypassing the distribution center (DC) and utilizing direct-to-consumer transportation solutions for more efficient logistics. These solutions can be compelling, but they are often complex.

This *China Hubbing Report* provides an overview of the survey responses received by Tompkins Associates in an attempt to demystify the process of designing and implementing a winning strategy for improved supply chain performance in China. Some interesting findings from the survey include:

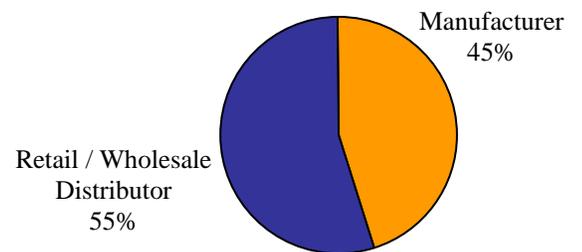
- Sixty-four percent of respondents who source product in China are either actively seeking new suppliers or reconsidering current supplier mix.
- More than half of the respondents indicate that their product flows through a Chinese consolidation center to either a U.S. deconsolidation center or a U.S. DC.
- Respondents who import finished goods from China more commonly utilize consolidators in China than importers of components, sub-assemblies and raw materials.
- Twenty-seven percent of the respondents who utilize an LSP report that their LSP receives products from suppliers and builds full container loads to send direct to its customers.
- Although nearly 60% note that visibility at the part level is important or very important, only 10-15% of respondents currently have visibility at this level.

Of the people who responded to the survey, 33% are from companies with less than \$1 billion in revenue, while 67% are from companies with more than \$1 billion in revenue. The average company size is just under \$10 billion. Additionally, respondents are from a variety of different industry sectors including retail, consumer goods, high tech and electronics, industrial goods, and healthcare (*Figures 1-3*).

**Figure 1. Respondents by Company Size**



**Figure 2. Respondents by Industry**



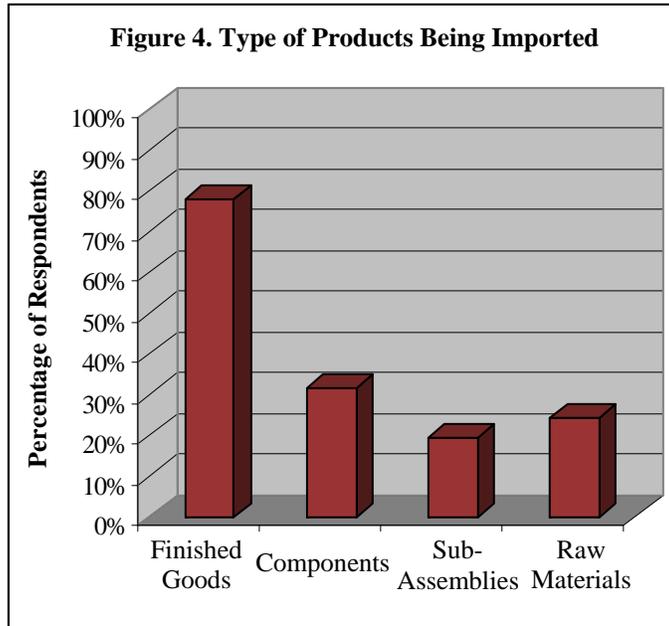
**Figure 3. Respondents by Segment**

	Manufacturer	Retail / Wholesale Distributor
Apparel, Fabric and Accessories	22%	14%
Automotive and Truck Parts	0%	9%
Department Store and Discount	0%	14%
Electronics	28%	0%
Grocery, Food and Beverage	6%	18%
Hardware and Home Improvement	0%	23%
Hobby, Toys, Arts and Crafts	6%	23%
Home Products/Furniture/Appliances	6%	0%
Personal Care and Drugs	11%	0%
Chemicals	11%	0%
Industrial	11%	0%

Significant opportunity exists to reduce both capital and operating expenses through the use of effective logistics strategies.

## Products Being Imported

A number of companies that import products from China import more than one product type. For instance, a computer company may import both finished goods and sub-assemblies, or a toy company may import raw materials, components, and finished goods. For this reason, respondents could choose more than one product type. Therefore, the totals across categories equal greater than 100%. Nearly 80% of respondents are importing finished goods from China and almost a third are importing components (Figure 4).



## Suppliers and Manufacturers

A number of companies that import products from China both source and manufacture products there. Nearly 90% source product in China, while more than 30% manufacture products in China (Figure 5).

Further analysis of the data shows that 64% of respondents who source product in China are either actively seeking new suppliers or reconsidering current supplier mix/priority.

As Steve Ganster writes in his book, *The China Ready Company*, “Most companies started their China sourcing under what we call an “opportunistic” approach, typically through a third-party organization, such as a Hong Kong broker or trader. Through this approach, they obtained some meaningful and relatively easy reduction in cost without any investment...”

He goes on to write, “However, many companies found out the hard way that they had left too much money on the table by not understanding the real costs of their supply sources in China. Many companies [that are] sourcing from China using an opportunistic approach must now take more control over the sourcing activity to maximize cost reduction and control the supply chain, as the level of sourcing volume has increased and taken on more importance to their firm...”

He later continues, “In response, companies have sought to do the work to explore sources themselves, in essence, eliminating the trader or, at least, minimizing the role. More recently...companies are looking to go a step deeper into what we refer to as strategic sourcing....This third step in the cycle results in more aggressive strategies, such as setting up operations, the acquisition of local facilities, strategic sourcing relationships, etc.”

From the survey, it appears that the 64% of respondents who are actively seeking new suppliers, or reconsidering their current supplier mix/priority, may be currently going through the various stages mentioned above. Also, many companies have already been greatly affected by the current global economic downturn, including many Chinese suppliers.

Sixty-four percent of respondents who source product in China are either actively seeking new suppliers or reconsidering current supplier mix/priority.

**Figure 5. Statements that Best Reflect Respondent Company’s Activity in China**

Statements	Percentage of Respondents
Currently Source Product from China	89%
Currently Manufacture Product in China	34%
Actively Seeking Suppliers	44%
Reconsidering Current Supplier Mix/Priority	37%
Conducting an Internal or External Study to Determine Next Steps	22%
Considering Options to Determine Next Steps	10%
Will Look at Options in 1-3 Years	5%
Will Not Start Process for Another 3 Years	0%
No Current or Planned Activity in China	7%

Multiple answers per participant possible. Total may exceed 100%.

## Personnel in China

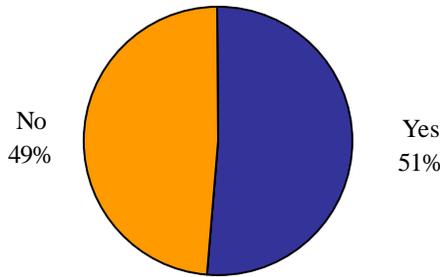
Approximately half of the companies that responded to the survey have personnel in China (Figure 6). The number of personnel in China ranges from one person in some companies to one organization that has almost 500. As Figure 7 shows, one-third of all respondents have between 1-10 employees in China. Another third have between 11-100, and the final third have between 101-500. On average, most of the personnel work in purchasing, followed by quality and supply chain (Figure 8).

It is interesting to note that only 48% of companies with revenues greater than \$1 billion indicate that they have personnel in China, while 75% of companies with revenue less than \$1 billion but greater than \$100 million have personnel in China. None of the respondent companies with revenues less than \$100 million have personnel in China. On average, the companies with more than \$1 billion in revenue and employees in China have an average of 157 people located there. The companies with revenue less than \$1 billion but greater than \$100 million average 33 people in China.

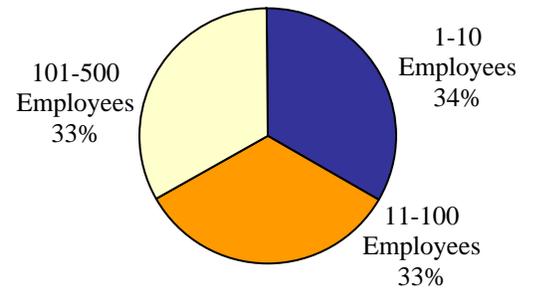
Across product types, if a company is sourcing raw materials from China, it is most likely to have employees in China (80% of the time), followed by companies that source sub-assemblies and components, running closely at 63% and 62% of the time. Companies that source finished goods from China have personnel in China 56% of the time (Figure 9).

Approximately half of the companies that responded to the survey have personnel in China.

**Figure 6. Respondents with Personnel in China**



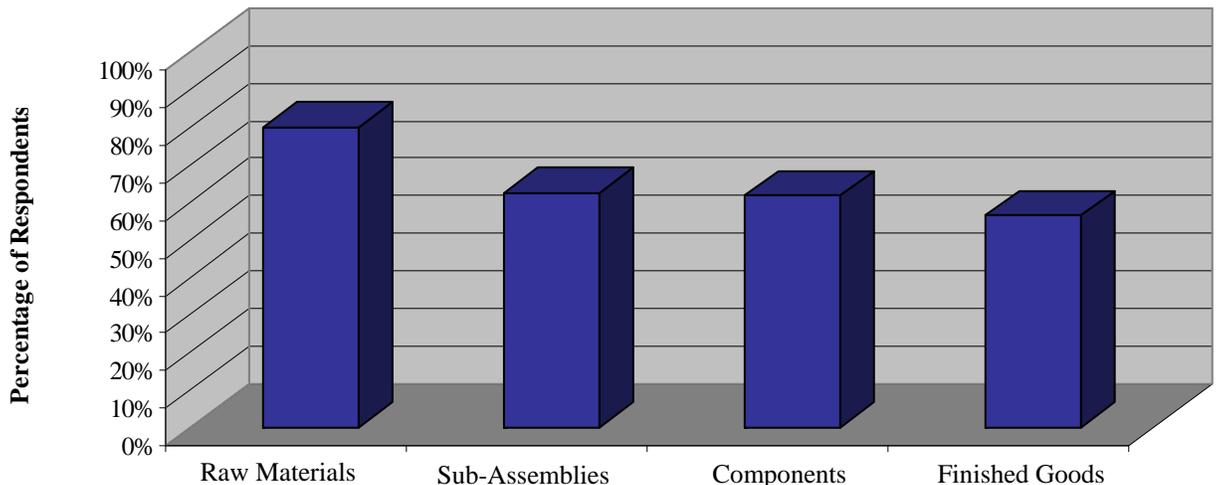
**Figure 7. Average Number of Employees in China**



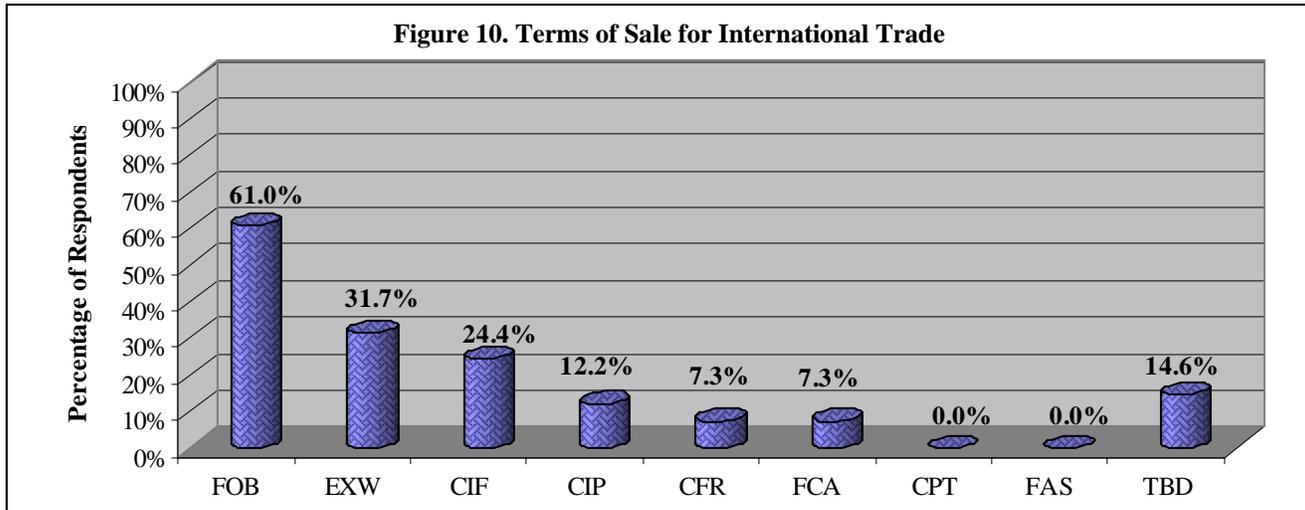
**Figure 8. Average Number of People in China by Function**

Function	Average Number
Procurement / Sourcing	47
Quality	12
Supply Chain Logistics	11
Management	6
Engineering	4
Finance / Accounting	4
Sales	4

**Figure 9. Likelihood of Having Personnel in China by Product Type**



## Terms of Sale for International Trade



**Figure 11. Percentage of Total Sales**

Term of Sale	Finished Goods	Components	Sub-Assemblies	Raw Materials
EXW	34%	54%	63%	50%
FCA	9%	8%	13%	20%
FAS	0%	0%	0%	0%
FOB	78%	46%	50%	40%
CFR	6%	15%	25%	10%
CIF	25%	46%	50%	60%
CPT	0%	0%	0%	0%
CIP	9%	31%	25%	20%
TBD	9%	23%	13%	10%

Nearly two-thirds of respondents note FOB as the most prevalent term of sale, followed by EXW and CIF (Figure 10).

Of the respondents who answered the question on terms of sale, those who import finished goods utilize FOB 78% of the time, as shown in Figure 11. A high percentage also use EXW and CIF. For the companies that import components and sub-assemblies, the most common term of sale is EXW. For importing raw materials, the most common is CIF, being utilized 60% of the time. CIF is also used a substantial amount of time for importing components and sub-assemblies. A much smaller number of respondents import finished goods under CIF.

CIP is used as term of sale 31% and 25% of the time for components and sub-assemblies, but it is a negligible factor for finished goods and raw materials.

Global Trade Management (GTM) is an increasing area of focus for many companies and for supply chain experts alike. The myriad of variables that come into play, including duties and taxes, product classifications, Inco Terms and many, many more, means that all companies importing large amounts of product need to do their own due diligence in deciding what works best for their business.

**\*Terms of Sale for International Trade**

**EXW (EX-Works):** In an EX-Works transaction, goods are basically made available for pickup at the shipper/seller's factory or warehouse and "delivery" is accomplished when the merchandise is released to the consignee's freight forwarder. The buyer is responsible for making arrangements with their forwarder for insurance, export clearance and handling all other paperwork.

**FCA (Free Carrier):** The seller is responsible for arranging transportation, but he is acting at the risk and the expense of the buyer. In FCA, the seller chooses and works with the freight forwarder or the carrier. "Delivery" is accomplished at a predetermined port or destination point and the buyer is responsible for insurance.

**FAS (Free Alongside Ship):** The buyer bears all the transportation costs and the risk of loss of goods. FAS requires the shipper/seller to clear goods for export. Companies selling on these terms will ordinarily use their freight forwarder to clear the goods for export. "Delivery" is accomplished when the goods are turned over to the buyer's forwarder for insurance and transportation.

**FOB (Free On Board):** FOB means that the shipper/seller uses his freight forwarder to move the merchandise to the port or designated point of origin. "Delivery" is accomplished when the shipper/seller releases the goods to the buyer's forwarder. The buyer's responsibility for insurance and transportation begins at the same moment.

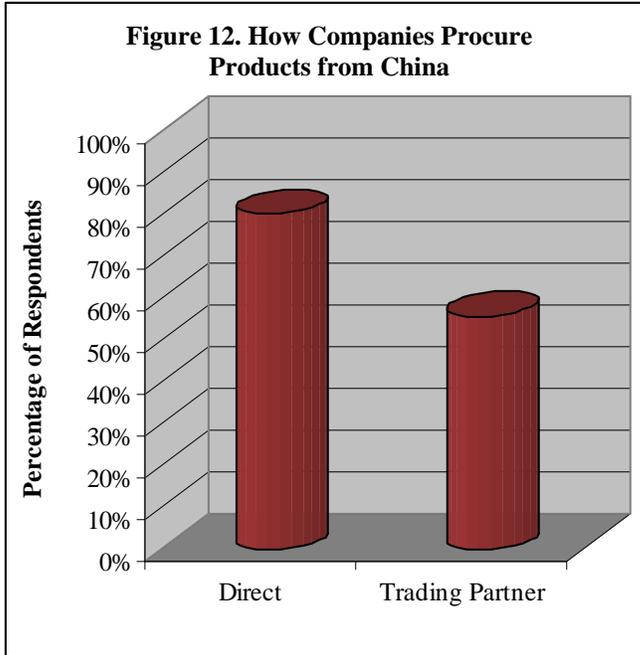
**Continued on page 7.**

Nearly two-thirds of respondents indicate that FOB is the most prevalent term of sale, followed by EXW and CIF.

## How Companies Procure Products

A number of companies that procure products from China purchase through direct means as well as through a trading partner. *Figure 12* shows that nearly 80% of all respondents currently buy products directly, and 56% buy through a trading company. *Figure 13* illustrates the consolidated purchasing data and the percentages of those that exclusively buy direct, exclusively buy through a trading partner, and the percentage that buys through both means.

Eighty percent of all respondents currently buy products directly, and 56% buy through a trading company.



**Terms of Sale for International Trade (continued)**

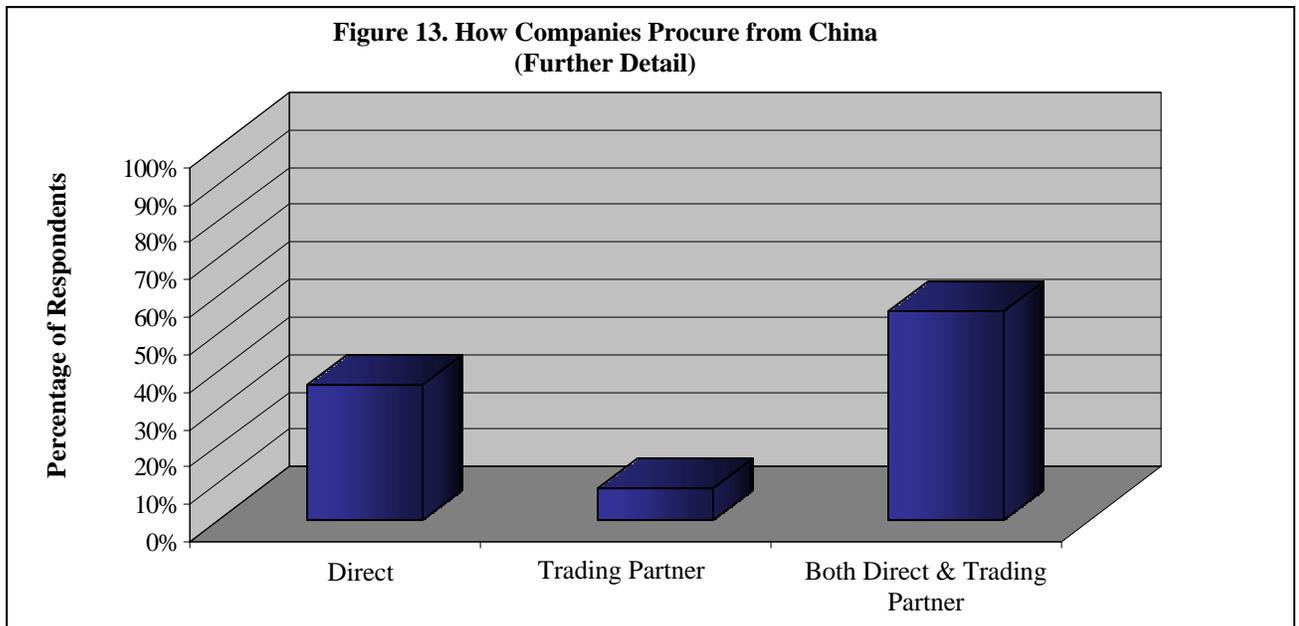
**CFR (Cost and Freight):** It is the shipper/seller's responsibility to get goods from their door to the port of destination. "Delivery" is accomplished at this time. It is the buyer's responsibility to cover insurance from the port of origin or port of shipment to buyer's door. Given that the shipper is responsible for transportation, the shipper also chooses the forwarder.

**CIF (Cost, Insurance and Freight):** Similar to CFR, but instead of the buyer insuring the goods for the maritime phase of the voyage, the shipper/seller will insure the merchandise. In this arrangement, the seller usually chooses the forwarder. "Delivery" as above, is accomplished at the port of destination.

**CIP (Carriage and Insurance Paid To):** This term is primarily used for multimodal transport. Because it relies on the carrier's insurance, the shipper/seller is only required to purchase minimum coverage. When this particular agreement is in force, freight forwarders often act, in effect, as carriers. The buyer's insurance is effective when the goods are turned over to the forwarder.

**CPT (Carriage Paid To):** In CPT transactions, the shipper/seller has the same obligations found with CIF, with the addition that the seller has to buy cargo insurance, naming the buyer as the insured while the goods are in transit.

*\*Terms from Foreign Trade Online "INCOTERMS"*



## Product Flow

The most frequent product flow is full container load from supplier to U.S. DC, occurring 73% of the time (Figure 14).

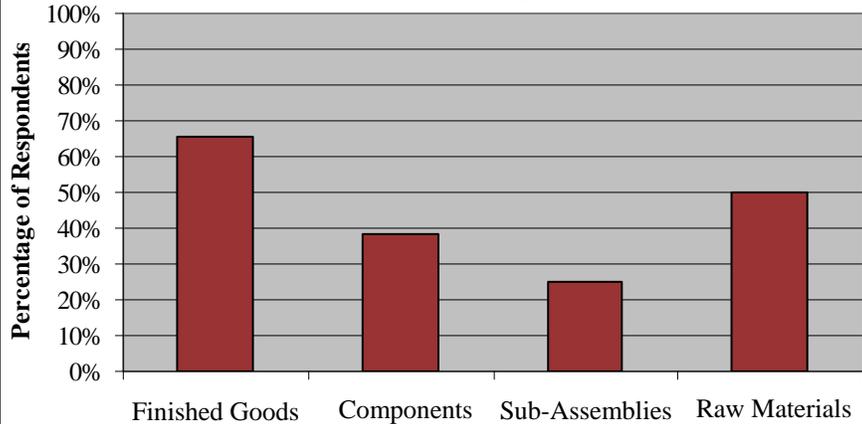
**Figure 14. Respondents' Product Flow**

Responses	Percentage of Respondents
Full Container Load from Supplier to U.S. Distribution Center	73%
Less than Container Load from Supplier to U.S. Distribution Center	49%
Less than Container Load from Supplier to Consolidator in China to U.S. Distribution Center	44%
Air from Supplier to U.S. Distribution Center	56%
Full Container Load from Supplier Direct to End Customer	29%
Less than Container Load from Supplier Direct to End Customer	15%
Air from Supplier to End Customer	12%
Full Container Load from Supplier to U.S. Deconsolidation Center	27%
Less than Container Load from Supplier to Consolidator in China to U.S. Deconsolidation Center	27%
Full Container Load from Supplier Direct to U.S. Deconsolidation Center	20%

Multiple answers per participant possible. Total may exceed 100%.

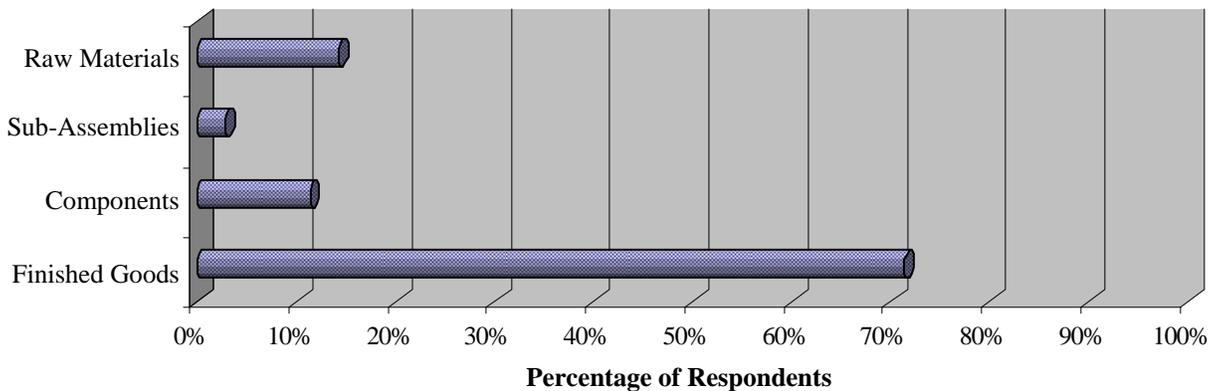
Extracted data from product flow responses shows that 51% of respondents indicate that their product flows through a Chinese consolidation center to either a U.S. deconsolidation center or a U.S. DC. Additionally, when looking at the flow of products in combination with the type of product, it is interesting to note that respondents who import finished goods from China more commonly utilize consolidators in China than importers of components, subassemblies, and raw materials (Figure 15).

**Figure 15. Less than Container Load from Supplier to Consolidator in China to Distribution or Consolidation Center in U.S. (by Product Type)**



Across all product types, finished goods most frequently lend themselves to hubbing in China more than any other type (Figure 16).

**Figure 16. Products that Lend Themselves to the Use of Hubbing Operations in China**



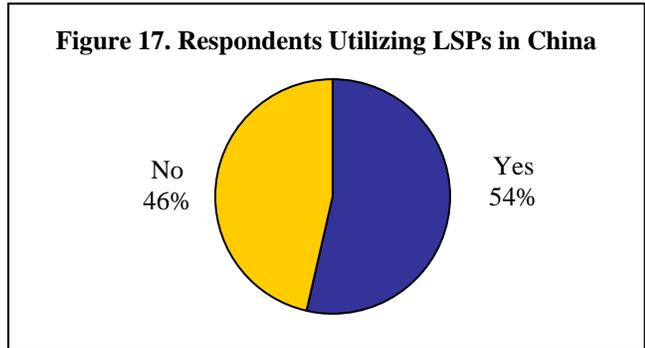
Across all product types, finished goods most frequently lend themselves to hubbing in China more than any other type.

## Logistics Service Providers (LSPs) and Value-Added Services (VAS)

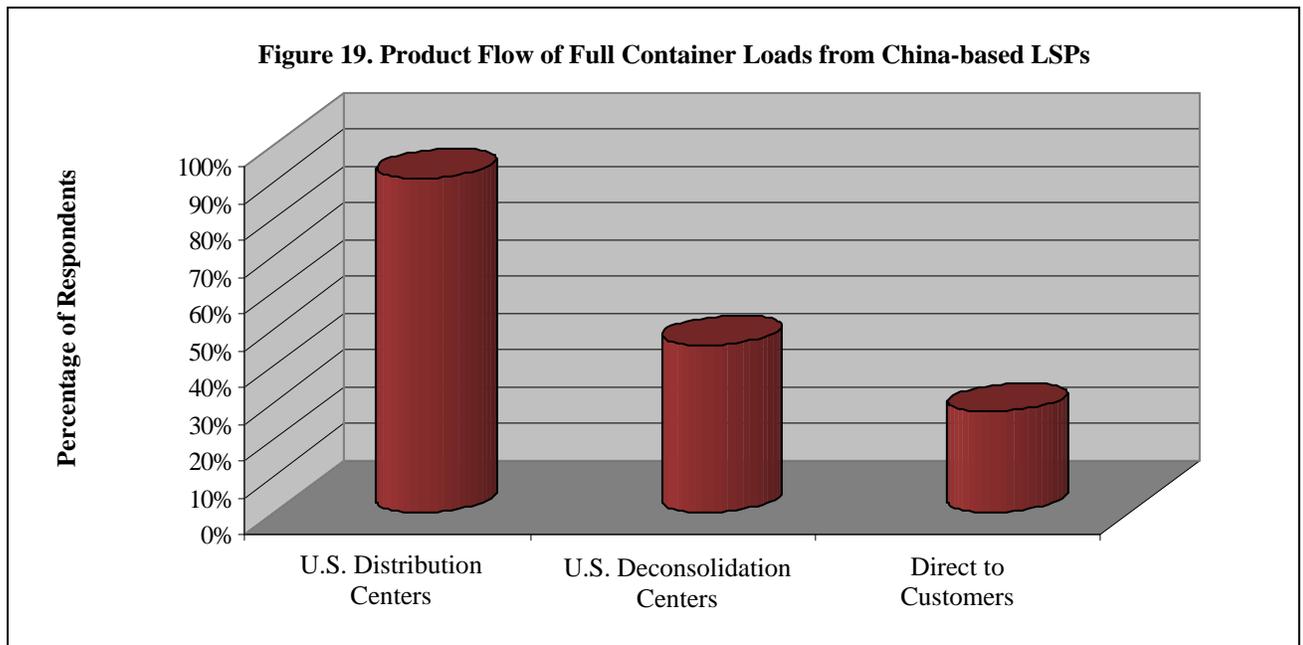
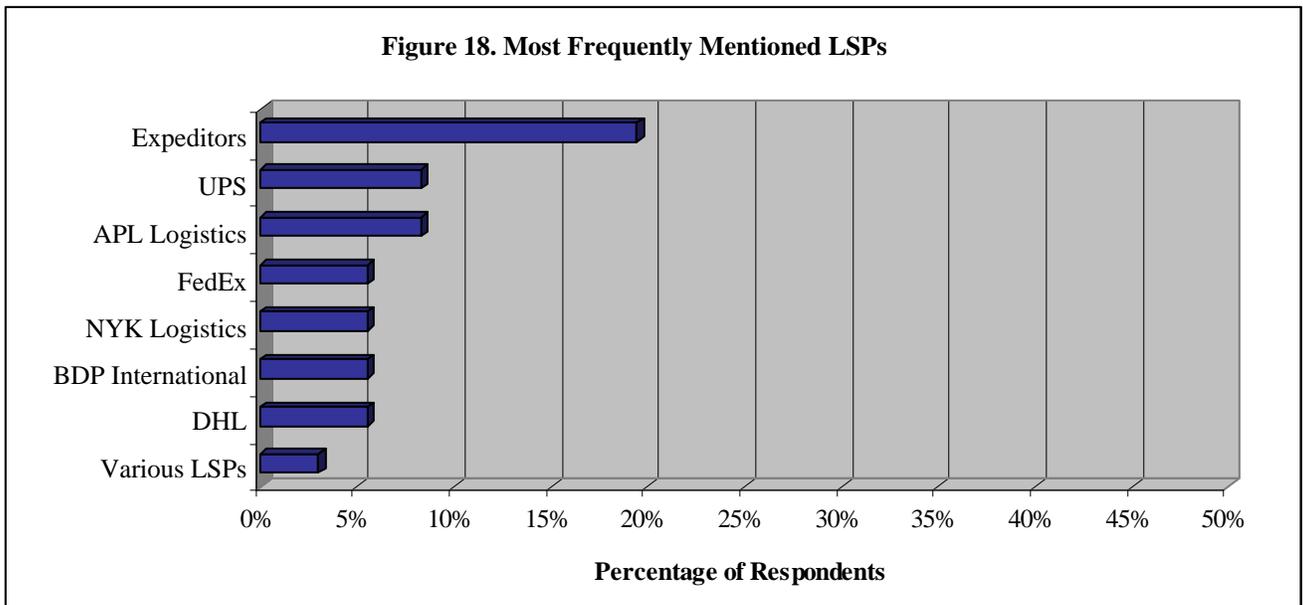
More than half of all respondents are using a logistics service provider (LSP) in China (Figure 17).

The most frequently used LSP by companies participating in the survey is Expeditors, followed by UPS and APL Logistics (Figure 18).

Ninety-one percent of the respondents who utilize an LSP report that their LSP receives products from suppliers and builds full container loads to ship to U.S. distribution centers. Just less than half indicate that their LSP ships to U.S. deconsolidation centers, and 27% note that their LSP receives products from suppliers and builds full container loads to send direct to its customers (Figure 19).



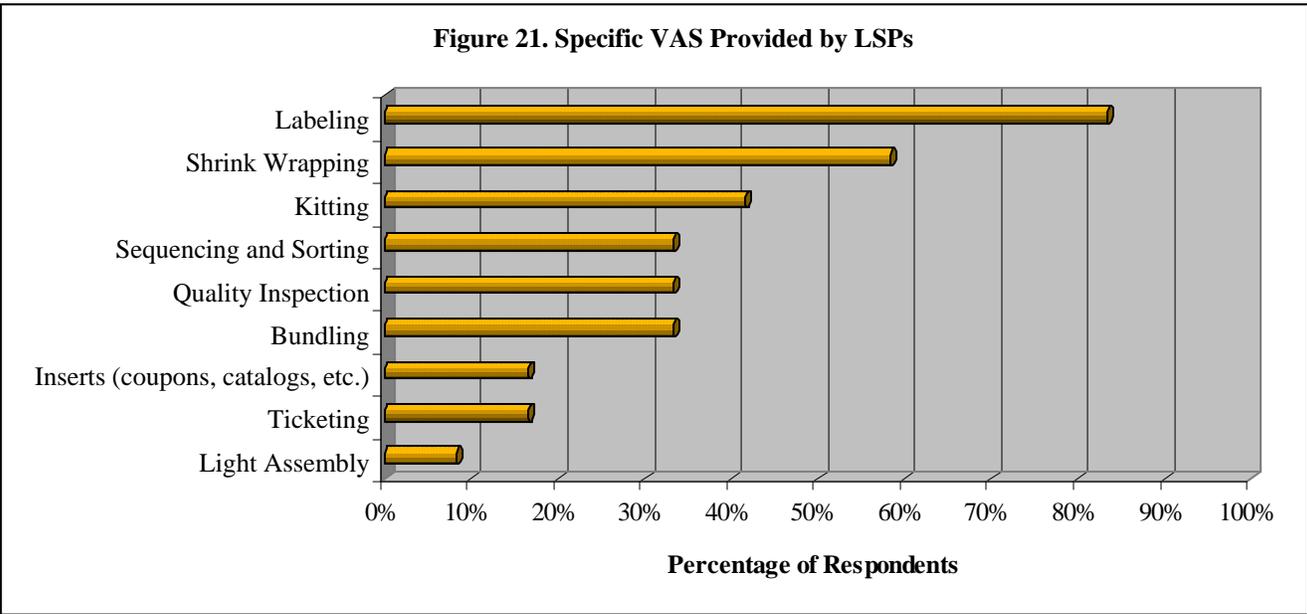
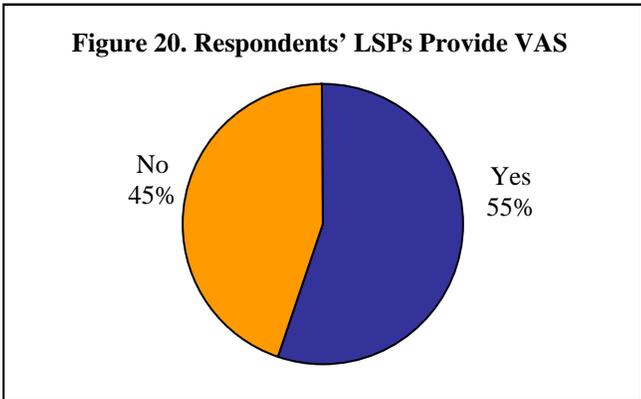
More than half of all respondents are using a logistics service provider (LSP) in China.



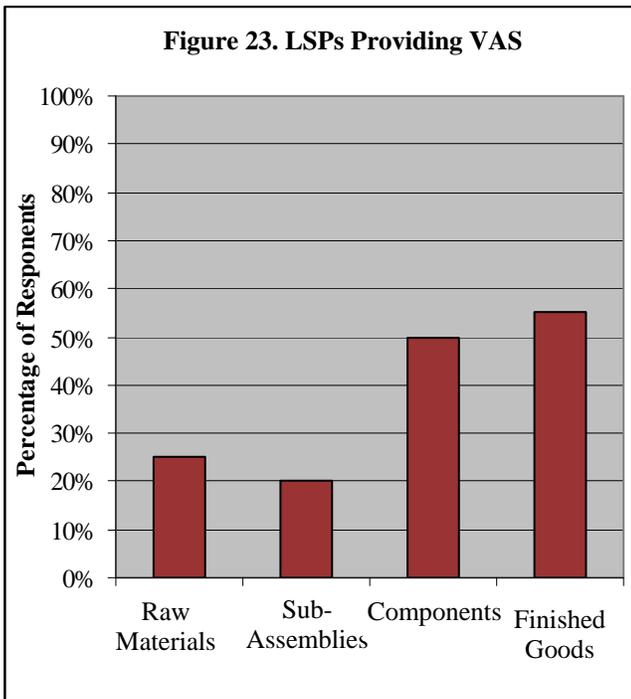
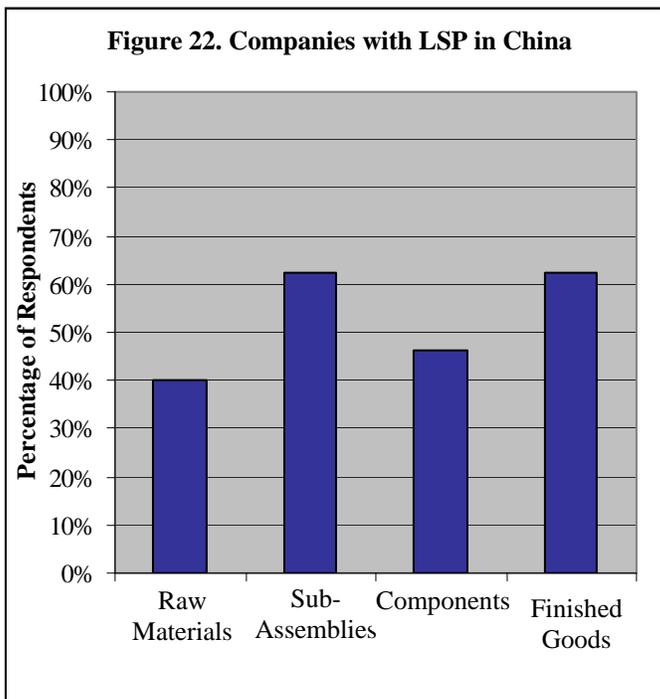
LSPs provide additional value-added services beyond hubbing for greater than 50% of respondents (Figure 20). Of those LSPs, 83% perform labeling, 58% perform shrink wrapping, and 42% perform kitting. These VAS and others are illustrated in Figure 21.

Across the product types, the percentage of companies using LSPs is higher for finished goods and sub-assembly importers (Figure 22).

A large number of finished goods and components importers' LSPs provide additional VAS, while raw material and sub-assembly importers receive less VAS from their LSPs (Figure 23).



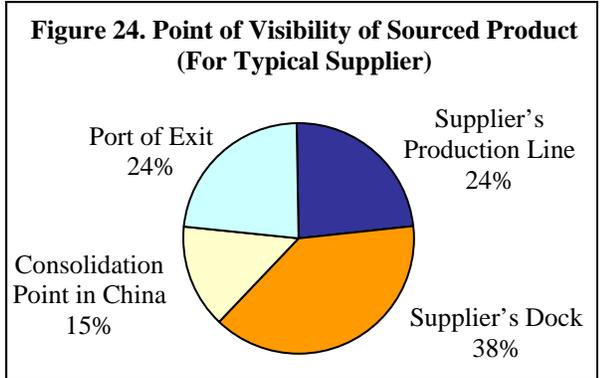
*LSPs provide additional value-added services beyond hubbing for greater than 50% of respondents.*



## Visibility

Most frequently, visibility of sourced product is first achieved at the supplier's dock. Nearly a quarter of respondents first achieve visibility while the product is on the supplier's production line, 15% at a consolidation point in China, and 24% at the port of exit (*Figure 24*).

The highest percentage of respondents rank visibility as either important or very important beginning at the suppliers dock (91%), followed closely by consolidation point in China (89%) and port of exit (89%). Of respondents who import finished goods and raw materials from China, the level of importance associated with visibility increases at each point in the supply chain, with the highest importance going from port of exit to consolidation point, to supplier's dock, to supplier's production line. The respondents who import components (46%) and sub-assemblies (13%) from China place a lower level of importance on visibility at the port of exit, presumably because they require visibility at an earlier point (*Figure 25*).



	Supplier's production line	Supplier's Dock	Consolidation Point in China	Port of Exit
Overall	59%	91%	89%	89%
Finished Goods	28%	38%	59%	77%
Components	33%	33%	50%	46%
Sub-Assembly	38%	25%	38%	13%
Raw Materials	33%	40%	50%	70%

The majority of respondents currently have visibility at the shipment level and very few have it at the work-in-process (WIP) level (*Figure 26*).

*Figure 27* shows that nearly 60% of the importers of finished goods have visibility to their product in transit – WIP (14%), Part (10%) or Order (35%) – at a greater level of detail than at the shipment level. In contrast, fewer importers of components (23%), sub-assemblies (26%), and raw materials (30%) have visibility at a level greater than at the shipment level.

Respondents who import components, sub-assemblies, and raw materials have common patterns of most frequent visibility at the shipment level (70-77%), part level (10-15%), and order level (8-13%). Furthermore, visibility at the WIP level is virtually non-existent.

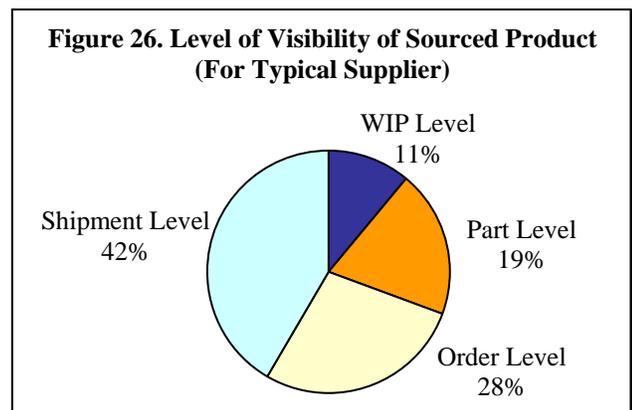


Figure 27. Level of Visibility	In Transit: (Visibility at a Greater Level of Detail)			Shipment
	WIP	Part	Order	
Finished Goods	14%	10%	35%	41%
Components	0%	15%	8%	77%
Sub-Assembly	0%	13%	13%	74%
Raw Material	10%	10%	10%	70%

Most respondents agree that the level of visibility is either important or very important at the shipment level (*Figure 28*).

Although almost 60% note that visibility at the part level is important or very important, only 10-15% of respondents across all product types currently have visibility at this level. This analysis indicates that all respondents, and to a large degree, the majority of the importers of product from China, would like to have a higher level of product visibility at an earlier time than they currently do today.

Level of Visibility	Percentage
WIP	48%
Part	59%
Order	80%
Shipment	92%

Most frequently, visibility of sourced product is first achieved at the supplier's dock.

## Lessons Learned

Overall, the most frequently mentioned “lesson learned” is that achieving a reliable and timely flow of materials is critical in making hubbing successful. Respondents also note that to gain true hubbing benefits, some may require additional volume, some may need a better understanding of their vendors’ true costs, and some may need more knowledge to help them with the challenges with China’s infrastructure.

For companies just getting started with their supply chains in China, more experienced survey participants gave the following advice:

### **Do your homework beforehand.**

- Travel there first. Get on the ground and understand the supply chain. Once it is set up and works, do not change it unless you have a good reason.
- Have a face-to-face relationship with China. It will be more important in years to come.
- Do your research and talk to companies that have successfully implemented their China supply chain. Avoid the simple mistakes and minimize your roadblocks.
- Seek accurate local and regional knowledge of trade practices and cultural challenges. Learn to handle trade like a Chinese entity and bring up standards/performances.
- Understand the logistics and production requirements beforehand. Do not assume that companies in China have the same support, in-house expertise, technology, or processes as the U.S.
- Engage the cultural differences through strong communication and coordination.

### **Use an experienced LSP.**

- Use full-capability LSPs with order management programs, including internet-based purchase order/item/shipment system-visibility.
- Ensure LSP has people in China and that your supplier has worked side-by-side with the same LSP.
- Work with a good consolidator and source from reputable companies.
- Use an experienced provider and understand objectives before starting.
- Hire a freight vendor that can offer more than one service. Ask a lot of questions and ask the same question to at least three people. Over time the best resources for information will become apparent. Initially, request very detailed billing documents. This helps to see how freight costs are impacted by subtle differences in shipment characteristics.
- Make sure the LSP has government approval for their business activities and that they have a very strong company-owned supply chain management product to view your shipment activity from any location in the world.
- Evaluate LSP’s resources to expand and grow in China by being able to open new offices and offer new services.

### **Have a good supplier management program and quality inspection process in place.**

- Have resources in China to manage the supply and logistics. One company notes that it has a sourcing center in China that interfaces directly with third-party suppliers and logistics companies in addition to its own supply chain employees and manufacturing.
- Establish in-country quality control partner with its feet on the ground.
- Select a suitable partner with common goals and one who will work on your behalf to secure the best pricing and terms. It is important to know how rejected material will be handled prior to commencing business with a supplier.
- Provide very detailed specs. Establish system for quality control inspection of production and pre-approval of production samples.

### **Have people from your company reside in China.**

- Go to China and visit partners. Having someone on the ground is important in order to keep relationships and quality assurance.
- Invest in relationships (time, travel) to achieve success. Having your own staff on the ground in China is critical, and relationships are very important.

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*Achieving a reliable and timely flow of materials is critical in making hubbing successful.*

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**Advice – Other**

- Involve groups from buying, IT, and logistics divisions during the setting up period.
- Manage the process cradle-to-grave and understand all the cost associated to bringing in product from China.
- Do not plan on perfection. Things can and will go wrong. Plan for these challenges.
- Focus on total cost, not Ex Works piece price.
- Use letters of credit.
- Know current hubbing trends. Most of the hubs in China are on the coast, Shenzhen to Dalian. As the government invests in infrastructure, rail, roads, new airports, etc., those hubs will move inland. Be prepared to have a firm knowledge of where the best points inland are for your sourcing of product and how to move it economically to the coastal ports to export beyond.
- Consider all options. One company has a concentration of suppliers in one area but does not take advantage of consolidating orders shipped direct-to-customers. This company wants to add that option, hoping it will increase sales on direct shipments and keep the freight out of its U.S. distribution center.

**References**

1. Ganster, Steven and Kent D. Kedl, The China Ready Company: Using the China Readiness Assessment to Prepare Your Company for China. Aurora, IL: China Pathways, LLC, 2005.
2. Foreign Trade Online (<http://www.foreign-trade.com/reference/incoterms.cfm>): “INCOTERMS”
3. Tompkins Associates’ “China Hubbing Survey” Data
4. Supply Chain Consortium Benchmarking and Best Practices Database ([www.supplychainconsortium.com/resource\\_center\\_process\\_overview.asp](http://www.supplychainconsortium.com/resource_center_process_overview.asp))

Go to China  
and visit  
partners.  
Having  
someone on  
the ground is  
important in  
order to keep  
relationships  
and quality  
assurance.

## Appendix I: Trends in China Sourcing

In China, there is clear movement among industry leaders toward more strategic sourcing in the wake of poorly designed and often randomly built Asian supply chains, which face an increasingly challenging environment.

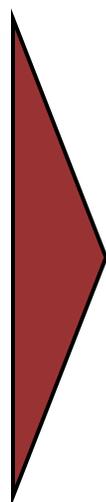
Prevalent systems today straddle between opportunistic and direct sourcing activity, but they do not have a clear strategy or alignment to the company’s global supply chain and growth objectives. This results in too many, or too few, suppliers in too many locations supported by a weak procurement strategy, processes and organization.



Recent changes in China’s landscape have made getting the sourcing approach right even more critical to long-term success. These include:

**Recent changes...**

- ▶ Flux in VAT rebate levels
- ▶ RMB appreciation
- ▶ New labor law in 2008
- ▶ Dynamics among Chinese suppliers in the wake of the global recession
- ▶ Concerns over quality
- ▶ Higher raw material and energy costs
- ▶ Fluctuating shipping costs
- ▶ Rising wage, transport and land costs



**Impact on sourcing companies...**

- ▶ Reconsidering geographic locations (outside China)
- ▶ Evaluating product SKUs and volume
- ▶ Improving processes to enhance competitiveness
- ▶ Adjusting supplier portfolio
- ▶ Rethinking supplier relationships and structures
- ▶ Considering alternative logistic structures and routes (e.g. hubbing)
- ▶ Revamping organizations

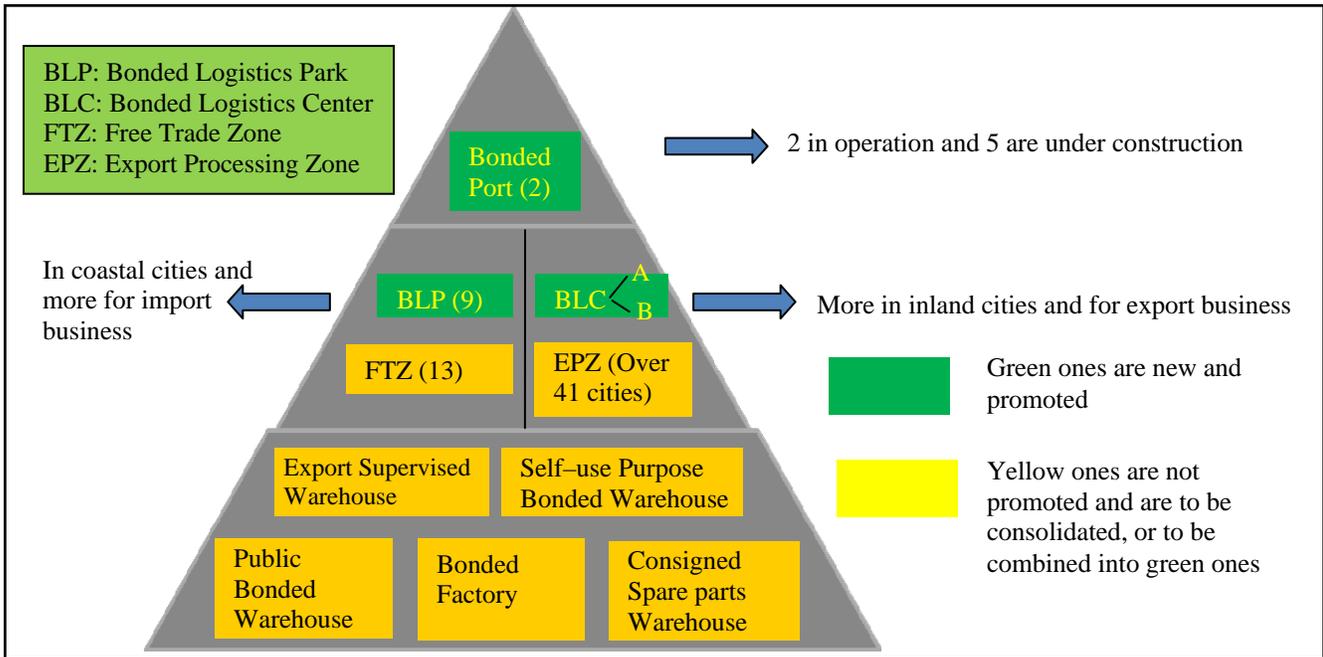
It is important in building an effective sourcing structure in China to consider major lessons learned in the past by Western companies, which are noted below.

Mistake	Consequences
Structure <u>before</u> strategy	<ul style="list-style-type: none"> <li>▶ Unable to support company growth, product requirements, delivery needs</li> <li>▶ Outgrew suppliers’ capabilities</li> <li>▶ Lack of flexibility to adjust to market/environment dynamics</li> </ul>
Being opportunistic and working from the wrong “basket” of products	<ul style="list-style-type: none"> <li>▶ Did not realize the full potential of China sourcing</li> <li>▶ Missed “low hanging fruit” opportunities</li> </ul>
Overall lack of due diligence on supplier selection	<ul style="list-style-type: none"> <li>▶ Poor performance, lack of sustainability</li> <li>▶ Loss of intellectual property</li> <li>▶ Created a competitor</li> </ul>
Not considering <u>total delivered cost</u>	<ul style="list-style-type: none"> <li>▶ Missed indirect costs of quality, safety, rework, executive and staff time, and internal controls and selling, general and administrative expense</li> <li>▶ Left money on the table</li> </ul>
Poor relationship management	<ul style="list-style-type: none"> <li>▶ Limited loyalty</li> <li>▶ Didn’t get “best” from supplier</li> </ul>
Insufficient resources on the ground	<ul style="list-style-type: none"> <li>▶ Ineffective/costly organization, poor use of third parties</li> <li>▶ Missed opportunities in relationships, performance, new products</li> </ul>

## Appendix II: Overview of China Trade Zones

Chinese custom bonded logistics is still at an evolving stage. The current pyramid can be described as follows:

- Bonded ports (or free trade ports): Only two in China – one is in Shanghai DaYangShan, the other is in Tianjin
- Bonded Logistics Park (BLP) and Free Trade Zone (FTZ) are more in the coastal areas, for *import* business
- Bonded Logistics Center (Type A and Type B), and Export Processing Zones (EPZ) are more in inland cities, for *export* business.
- Various bonded warehouses at the bottom are being consolidated: once Beijing city had more than 1,000 such warehouses, now only 89.



### Key Attributes of Zones

*Bonded ports have the functions of both BLP and BLC.*

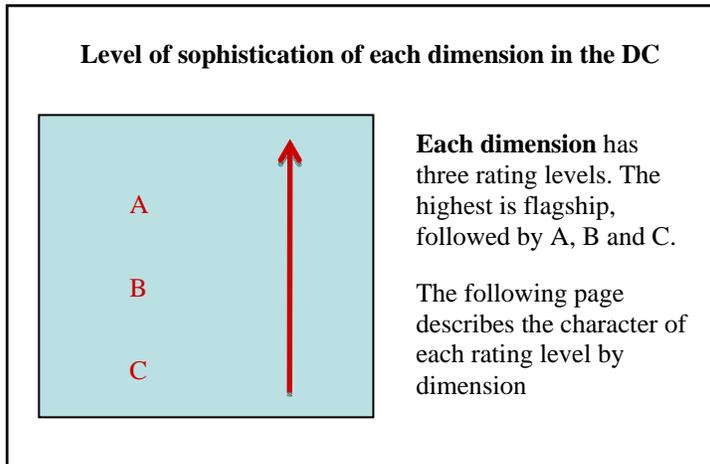
	BLP (Bonded Logistics Park)	FTZ (Free Trade Zone)	BLC (Bonded Logistics Center)	EPZ (Export Processing Zone)
<b>Definitions</b>	BLP is set up and managed by one corporate enterprise; several logistics enterprises enter to provide bonded logistics services	A special economic area which is separated from the other economic areas, set up or approved by the State Customs	Set up and managed by one corporate enterprise. Logistics services are provided by (A) the corporate enterprise itself or (B) the several logistics enterprises located in the center	A special zone near the port, airport or other traffic convenient places in a country (or state); most or all of the products produced in EPZ are exported
<b>Scope of Business</b>	Simple processing, trade, logistics service	Trade, manufacturing, logistics service	Deep-processing, trade, logistics service	Manufacturing, logistics service
<b>Taxation</b>	Bonded import and VAT refund upon export to BLP (Refund only after goods left customs)	Bonded import and No VAT refund upon export to FTZ	Bonded import and VAT refund upon export to BLP (Refund only after goods left customs)	Taxation bonded import and VAT refund upon export to EPZ (Refund only after goods left customs)
<b>Foreign currency administration</b>	Able to keep foreign currency	Able to keep foreign currency	Able to keep foreign currency	Able to keep foreign currency
<b>Customs custody</b>	N/A	E-handbook	E-handbook	E-handbook;
	N/A	Normal finished goods (FG) re-import control	FG re-import control	Strict FG re-import control
<b>Others</b>	The operational entity of the park-port linking strategy		Divided into type A and B	

## Appendix III: Distribution Center Ratings

### Rating DCs in China to Reflect Level of Sophistication and Level of MHE Technology

A DC's classification is based on its profile against a series of operational dimensions. Below are five dimensions or benchmarks that can be used to reflect key aspects of a DC's level of operation:

1. **Storage:** warehouse cube utilization
2. **Technology:** technology employed to improve the inventory accuracy
3. **Conveyance:** conveyance technology to move goods
4. **Industrial trucks:** truck usage with respect to level of space efficiency
5. **Fulfillment:** leveraging DC order profile with the appropriate selection of order processing equipment



### Key Characteristics of Each Dimension by Rating Level

Benchmark	Characteristics	Rating	Key Features
Storage	Level of cube utilization	A	Automated storage/retrieval systems (AS/RS) and/or single storage/high bay ( $\geq 5$ )
		B	Deep lane or single selective pallet rack (4-5 levels)
		C	Floor storage and/or low bay racking
Technology	1. Inventory accuracy; 2. Pick accuracy; 3. Ability to have hybrid order fulfillment; 4. Labor cost; 5. Tracking and control	A	WMS, ASN/EDI communication with trading partners
		B	Location system (PC, spreadsheet file, ERP system, etc.) can print pick list
		C	No IT system
Conveyance	Level of using conveyance technology to cope with volume	A	Mechanized transport and sortation
		B	Gravity or simple transport conveyor
		C	None
Industrial Trucks	Level of space efficiency	A	Very narrow aisle $< 6$ feet ( $< 1.8$ meters) with turret or stacker cranes
		B	Narrow aisle $6 \leq 10$ feet ( $1.8 \leq 3$ meters) with reach and/or man up stock pickers
		C	Wide aisle $> 10$ feet ( $> 3$ meters) with conventional lift and pallet trucks
Fulfillment	Level of using order profile to drive efficiency	A	Hybrid with some sophisticated technology (pick/put-to-voice/light, unit sorter)
		B	Hybrid
		C	Single method (discrete)

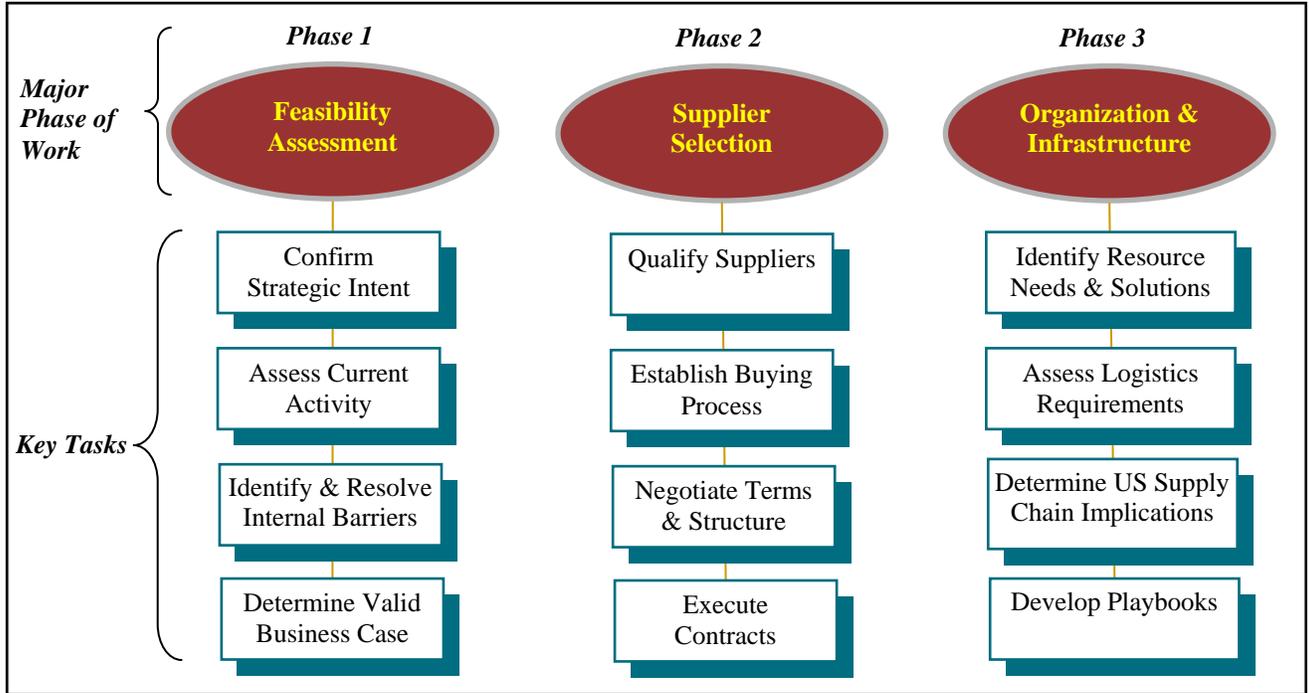
The assimilation of these ratings by dimensions is utilized to develop an overall DC classification as described in the table below. There is strong movement to move to Class 1 and Class 2 DCs in China in the wake of a maturing and sophisticating market environment.

Distribution Center Overall Rating	Classification Based on Assimilation of Dimension Ratings
Class 1 DC	5 As
Class 2 DC	$\geq 3$ As, no Cs
Class 3 DC	$\geq 3$ Bs or above
Class 4 DC	Rest

## Appendix IV: China Sourcing Feasibility Assessment Process Outline

### General Overview of Key Phases of Work

The chart below shows three overall phases of work for sourcing in China. At the end of Phase 1, a decision will be made on project viability and direction. Phases 2 and 3 are project planning and execution and are typically done in parallel.



Key principles include:

- Phased approach
- Interactive
- Transfer learning process
- Full transparency
- Observes the six Ds (due diligence, due diligence, due diligence)
- Facts based on current market intelligence
- Results must be implementable
- Alignment of sourcing activities to Client’s strategic goals for growth and profitability

### Key results of Phase 1

Confirm Strategic Intent	Assess Current Activity	Identify & Resolve Internal Barriers	Build Business Case
<ul style="list-style-type: none"> <li>• Understand current stress points and challenges</li> <li>• Confirm overall strategy for growth</li> <li>• Clarify how its future sourcing activity will support achieving strategic goals</li> <li>• Define short and long-term sourcing aspirations</li> </ul>	<ul style="list-style-type: none"> <li>• Review data</li> <li>• Understand existing processes and support systems</li> <li>• Review historic events, mistakes, wins, etc.</li> <li>• Define current management roles and responsibilities</li> <li>• Review third party involvement, roles, good/bad experience</li> </ul>	<ul style="list-style-type: none"> <li>• Assess “China Readiness”</li> <li>• Identify and qualify barriers to China sourcing (merchandising conflicts, execution issues, organizational challenges, etc.)</li> <li>• Develop potential solutions to address these challenges</li> </ul>	<ul style="list-style-type: none"> <li>• Identify priority basket of products to consider for China sourcing</li> <li>• Determine estimated economic benefit to ramped up sourcing</li> <li>• Overview likely resource requirements to implement the sourcing strategy</li> <li>• <i>Conclude on key results of project feasibility and define next steps</i></li> </ul>

## Outline of Phase 2 and 3

The specific scope, tasks and sequencing for follow-up planning and implementation phases will derive from results of Phase 1 and a decision to move forward. The following charts describe specific steps in these subsequent phases that will give you an idea of the scope of work required and the final results when complete. Many of these steps will be done in parallel.

### Supplier Qualification

With strategic intent and product requirements well established, an effective supplier qualification phase will be completed.

Objectives	
Identify, qualify and select suppliers to meet the specified sourcing requirements for the defined product portfolio.	
Representative Tasks	Work products
<ul style="list-style-type: none"> <li>Establish supplier criteria</li> <li>Determine number and target product split by supplier (ideal)</li> <li>Categorize suppliers into tiers in terms of priority, relationship type, etc.</li> <li>Identify and screen suppliers through secondary and on-the-ground research including plant visits</li> <li>Review and select most qualified targets</li> <li>Assist managing first-articles process, as needed</li> <li>Set up China trip for final supplier review by Client and negotiation of contracts</li> </ul>	<ul style="list-style-type: none"> <li>Detailed selection criteria list</li> <li>Summary analysis of alternative suppliers</li> <li>Detailed profiles on priority candidates</li> <li>Selection of target list</li> <li>Outline of commercial terms</li> </ul>
Estimated Timing	
6-8 weeks	

Utilize various criteria to screen suppliers to best meet company needs. Requirements typically include the following:

- Capacity (current and plans) plus utilization levels
- Current customer mix (anyone competitive?)
- Product mix and capability
- Manufacturing capability, technology base and equipment
- Assessment of management quality and experience
- Product engineering and design capabilities and experience
- In-house quality control personnel and systems
- Compliance with China contract labor laws
- Current export versus domestic activity
- Experience with foreign customers
- Price competitiveness
- Financial stability
- Ownership structure
- Integrity of management team

**Sample Supplier Qualification Matrix**

Supplier Name		Supplier Name in Chinese	Date of Entry	Date of record update	1. Product Fit						
Product Name	Product Type	Industries served	Materials handled	Product Characteristics							
<b>2. Supplier Capability &amp; Risk Profile</b>											
Year of Est.	Ownership	Number of Employees	Revenue (USD Millions)	Exports (USD Millions)	Exporting to OEMs (Y/N)	Export countries	Domestic Customers	Export Customers	Annual Capacity	Quality Certification	
<b>3. Contact Details</b>											
Contact Person	Designation	Email id	Telephone	Fax	Website address	Address	City	State/Province	Zip	Country	
<b>4. Additional information</b>											
Willing or currently supply to construction/industrial vehicle industry? (Y, N)	(For Tech. related items) Joint Tech Develop. with companies overseas? (Y & co. name, N)	Is a detailed profile available?	Source	Status	Comments	Priority	Remarks				
<b>5. Reference Checks</b>											
				Rank the following on a 1-10 scale (1 is best)							
Reference type	Nature of business relationship	Length of business relationship	Annual volume of business	Fiscal responsibility	Customer service	Product quality	Product pricing	Market knowledge	Product development	Business ethics	

### Buying Process

As part of this process, establish and follow a clear and rigorous procurement process.

- Meet suppliers and negotiate contract terms
- Draft and processing non-disclosure agreements (NDAs) and agreements to provide samples
- Coordinate blueprints and respond to questions from suppliers
- Manage shipping and logistics to send samples back
- Contracting subject matter experts locally to help assess supplier’s technical capabilities, as needed
- Establish ongoing relationship process, e.g.:
  - QC
  - Delivery timing and expectations
  - Change orders
  - Production monitoring

### Organizational Infrastructure

Fully review of operational requirements to implement the sourcing plan, including required resource and organization as well as logistics.

Objectives	
<ul style="list-style-type: none"> <li>• Determine required organization (internal, third party preference)</li> <li>• Develop a full logistics plan, resource requirements and infrastructure to support the sourcing plan</li> </ul>	
Representative Tasks	Work products
<ul style="list-style-type: none"> <li>• Determine organizational requirements and alternative structures and/or use of third parties (such as agility)</li> <li>• Review and determine ocean/intermodal transport components of the supply chain (costs, service reliability, capacity), including 3PL aspects</li> <li>• Provide the process knowledge and capability to address compliance, trade facilitation and risk management aspects of the supply chain</li> <li>• Coordinate with North American distribution and transport requirements</li> <li>• Establish on the ground QC capability</li> <li>• Etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Organizational structure and key personnel</li> <li>• Logistics plan</li> <li>• Resource needs and budget</li> <li>• US logistical implications</li> </ul>
	Estimated Timing
	3-5 weeks