China is Changing Supply Chains Around the World: Facts and Trends

Facts and Trends

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Introduction

Today, just as 40 years ago, business is focused on growing revenues and maximizing profits. This much has remained relatively consistent. What has changed dramatically over this period of time is the path most products take from raw material through manufacturing to final delivery to the end customer – be it another business, or an end consumer. Today's supply chains cover exponentially more miles, connect many more trading partners, are much more complex, and employ a constantly changing set of global capabilities.

This paper explores the evolution of China from being a primitive, low-cost manufacturing location to an ever-advancing global supply chain hub. It focuses on the store-ready, distribution center-(DC) ready, and assembly line-ready distribution capabilities available from China that are providing benefits to leading North American and European companies today. Also, it looks at how these same capabilities are being leveraged to further China's domestic distribution capabilities to meet the needs of its growing consumer base.

This paper explores how supply chains got to where they are now, then examines distribution capabilities that currently exist for Chinese exports, and finally, reviews a few interesting trends that may impact China's future role in the global supply chain. The information covered here provides a better understanding of the export distribution capabilities that exist within China today, and highlights intra-China distribution advances that are currently underway. Whether or not a company is sourcing, manufacturing, distributing, or selling product in China, the information in this paper is intended to help get the most out of China supply chain activities.

A Brief Look at What Has Changed in the Past 40 Years

1970	2010

• There were roughly 3.7 billion people on Earth, and China was the most populous country in the world. • Fifty-five percent of the world's population lived in four countries / regions: China (22%), India (15%), the area now known as the European Union (EU) (12%), and the United States (6%). • China's portion of global GDP was just less than 1%, the U.S. had 26.5%, and the EU was 27%.	• The world's population is around 6.8 billion. • The same four countries / regions as 1970 still have the largest bases of population, but now contain 49% of the world's population: China (20%), India (17%), EU (7%), and the U.S. (5%). • Global GDP is three times what it was in 1970, but China's slice of global GDP is now around 7%. • The U.S. portion of global GDP has remained relatively constant over the past 40 years (around 26.5%), and there has been a relative decline in the share of world output during this same period by the EU members from 36% to 27%.

Figure 1. Changes between 1970 and 2010

Figure 1 shows a few global changes over the past 40 years. Recently, the speed of change has continued to accelerate. Just five years ago, only 16 companies on the Fortune Global 500 list were Chinese, with three in the top 50. The U.S. had 176 on the list, and six of the top 10, and Europe had three of the top 10. In 2010, China had 46 companies showing up on the Fortune Global 500 list, including three in the top 10. The number of U.S. companies on the list dropped to 139, with only two in the top 10, while Europe has maintained three of the top 10 positions.

According to the World Trade Organization's Trade Profiles, the EU ranks #1 in global exports, with almost 16% global share. The U.S. is the EU's largest export partner at 19%, and China is its fourth largest partner at 6%. China ranks #2 for exports globally with an 8.9% share, shipping almost 40% of its exported merchandise to the EU and the U.S. The U.S. is just behind China in export volume at #3, with an 8% global share, shipping 21% of its exports to the EU and 5.5% to China.

On the import side, the EU also ranks #1 globally, with greater than 18% share. Its largest import partner is China at 16%, and the U.S. is second at 12%. The U.S. is the #2 global importer with 13.5% of the global import volume, importing 17.4% of its products from the EU, and 16.5% from China, its first and second largest import partners. China is the third largest global importer, with almost 7% of the global volume.[1] *Figure 2* depicts this information.

EU U.S. China

Exports	• #1 in global exports (16% of global share) • U.S. is largest export partner (19%) • China is fourth largest export partner (6%)	• #3 in global exports (8% of global share) • Exports 21% to EU • Exports 5.5% to China	• #2 in global exports (8.9% of global share) • Exports 40% to EU and U.S.
Imports	• #1 in global imports (18% of global share) • China is EU's largest import partner (16%) • U.S. is second largest import partner (12%)	• #2 in global imports (13.5% of global share) • Imports 17.4% from EU • Imports 16.5% from China	• #3 in global imports (7% of global share)

Figure 2. Global Imports and Export Volume Comparison[1]

All of this paints the picture as to why it is important to examine the U.S., China, and Europe as part of the global flow of products and materials today.

It is interesting to note that today's population distribution is slightly different from 40 years ago due in large part to China's dramatic decrease in its fertility rate from 5.8 children per woman in 1970 to around 1.7 children per woman today.

[1] "World Trade Organization, Trade Profiles," March 2010, https://www.wto.org/english/res_e/booksp_e/anrep_e/trade_profiles10_e.pdf

As China and the first and second world nations have maintained a relatively low fertility rate, the higher fertility rate in developing countries has started a redistribution of the overall global population. This will become even more apparent over the next 20 years when India is estimated to surpass China as the most populous country in the world. It is also interesting to note that somewhere around this same timeframe, China is poised to become the world's largest economy.

I. China's Export Distribution Capabilities, the Enabling Technologies, and How Both Will Shape China's Domestic Distribution Capabilities in the

Future

As supply chain requirements evolve and logistics capabilities in China improve, it is important to have a thorough understanding of China's export distribution capabilities as a foundation for future decisions that can impact cost and service. One of the goals of this paper is to look at the capabilities that are available to today's North American and European corporations to leverage China as a supply chain hub for international distribution.

Shanghai has overtaken Singapore as the busiest port in the world. This is yet another measure of China's significant role in international trade. To get the most out of China's continuously increasing capabilities, it is important to consider the following (*Figure 3*):

To get the most out of China's continuously increasing capabilities, it is important to consider the following:

- Visit China regularly
- Implement quality processes
- Review incoterms
- Review total delivered costs

Figure 3. Key Areas to Consider When Doing Business in China

- **Visit China regularly.** Companies need to realize the importance of relationships with suppliers, service providers, state, province and local government representatives, educators, and relevant industry agencies.
- **Implement quality processes.** Having quality processes in place that reach all the way to suppliers' suppliers is important, as well as mapping the entire process, identifying critical touch points and providing the tools and communication to ensure success all along the supply chain. This will help with risk mitigation and many will find additional ways to improve quality at origin and reduce cost.
- **Review incoterms.** Changing incoterms to take advantage of China's growing inland

trucking capabilities is another example of an opportunity that may reduce duties and transportation costs.

- **Review total delivered costs.** Periodically examining the supply chain ensures optimization based on total delivered cost and current capabilities. For example, if a company is taking advantage of off-season factory production capacity at reduced cost, perhaps they can further reduce that cost by utilizing a hub in China instead of shipping and storing at destination.

When assessing China as a hub for international distribution, it is important to consider the following:

- Today, value-added services that have traditionally only been available from domestic distribution resources, in North America and Europe, are performed reliably in China at a fraction of the costs.

- Inventory can be replaced with information.

- Benefits available by planning and preparing store-ready, DC-ready, and assembly line-ready shipments at the source do not stop at operational cost savings in labor and reduced working capital for inventory, but include customer service through reduced supply chain time and significant sustainability impact.

By recognizing that there are cost advantages, inventory reduction opportunities, and customer service benefits to be gained by considering China as a global distribution hub, global shippers can expand their thinking about how to utilize their global network.

A. China’s Export Distribution Capabilities

This section looks at the various distribution schemes for moving product from China to the North American and EU markets. First, it covers the most basic/traditional models. Then it reviews the models that more fully leverage new logistics capabilities, including shipments that are made store-ready, DC-ready, and assembly line-ready at origin.

The models include:

- Supplier direct-to-destination DC

- Traditional consolidation

- DC direct
- DC bypass
- Store-ready, DC-ready, and assembly line-ready services

A common factor for almost every company that sources or manufactures product in China is that it has a unique supply chain. When talking to companies that continually improve on total delivered costs (versus just keeping product moving), it is evident that these companies invest time and energy in constantly learning what others are doing and what new capabilities are being deployed. They invest in practical research and capitalize on best practices developed outside their organizations.

Several distribution solutions that are available for global exports from China are profiled on the following pages, starting with some of the traditional export solutions and progressing through the more advanced. *Figure 4* provides a brief summary of the models.

Supplier Direct-to-Destination DC
This process is common among big-box retail and consumer electronics stores that have large enough volume to justify FCL direct from a single supplier to a store, rather than to a DC.
Traditional Consolidation
This distribution scheme best serves environments in which individual supplier volumes do not warrant FCL shipments, transport costs are a significant component of cost of gods sold (COGS), and shipments must be consolidated across Chinese suppliers to build cost-effective FCL ocean shipments.
DC Direct
This distribution scheme is designed to create more cost-effective FCL shipments by consolidating shipments across suppliers in China.
DC Bypass
The DC bypass scheme is most commonly used for products that are bulky and often difficult to store at a DC, especially one designed for pallets or cartons. Items such as furniture, gym equipment, large automotive components, and major appliances may fall into this category.
Store-Ready, DC-Ready, & Assembly Line-Ready Services
SRS, DCRS, and ALRS deliveries from a China origin DC can be employed to fully leverage the China sourcing advantage. Products are received and stored in a Chinese DC from multiple suppliers. Orders from individual stores, a DC, or the assembly line-level are processed and built to pallet level in China, then consolidated to FCL.

Figure 4. Common Uses for Shipping Models

1. Supplier Direct-to- Destination DC

The simplest export process involves full container loads (FCLs) of a single SKU or multiple SKUs from a single supplier to a single destination – typically either a store or DC. No consolidation or deconsolidation is required. At destination, goods are received, put away and stored at the destination DC until time of shipping to another distribution point – a store, an assembly line, or a consumer. When holding and distributing inventory is not a problem, this option offers the lowest ocean transport cost.

For companies that measure landed cost, this method represents the lowest landed cost per unit, although frequently not the lowest total delivered cost. The total delivered cost is often negatively impacted, as there may be many additional costs incurred within the destination country to get the product to its final destination. This process is common among big-box retail and consumer electronics stores that have large enough volume to justify FCL direct from a single supplier to a store, rather than to a DC.

Consider: *While building volume at each supplier and then sending full containers to a single DC minimizes total landed costs for transportation, there may be other negative side effects. Holding inventory at a supplier location until FCL volume is available to ship may mean that product is drawn down at destination and fill rates may suffer. Sending more product volume than necessary to a destination DC in order to minimize transportations costs may lead to excessive inventory being put into the distribution channel. Additionally, this inventory now incurs carrying costs and utilizes capacity in the DC for a product that may sit for a long period of time.*

2. Traditional Consolidation

Products received from multiple suppliers are consolidated into containers to maximize cube and minimize transportation costs. FCLs are shipped to North America and the EU and deconsolidated at the destination port where less-than-truckload (LTL) shipments are delivered to DCs – or product is shipped in FCL quantities to a central or regional DC. Inventory is received, put away and stored. Orders are created.

In a retail supply chain, product is then prepped for store delivery and combined with other products to create store-level shipments. In a manufacturing supply chain, product is prepped for delivery to the manufacturing or assembly facility. The final leg to individual stores or the assembly facility is accomplished via the most appropriate mode of transportation to coincide with reorder schedules or the like. A variety of value-added services can take place at the consolidation facility and/or within the DC, including kitting, labeling, quality inspection, shrink-wrapping, ticketing, sequencing and bundling.

This distribution scheme best serves environments in which individual supplier volumes do not warrant FCL shipments, transport costs are a significant component of cost of gods sold (COGS), and shipments must be consolidated across Chinese suppliers to build cost-

effective FCL ocean shipments. Importers utilize consolidators, logistics service providers (LSPs), and freight forwarders to consolidate shipments with other importers or across suppliers to avoid costly air shipping.

The objective of this method is to reduce transport costs for smaller importers by consolidating freight into FCL shipments. Additional costs for each shipment are incurred from handling at the consolidation and deconsolidation point, handling and storage at one or more DCs, and handling at the final store or assembly location. Each leg in the intra-EU and intra-North America product flow incurs transportation cost.

The 2009 State of the Retail Supply Chain, a study presented by the Retail Industry Leaders Associates (RILA), finds that company-owned DCs remain the primary hub of their distribution network. Given that retailers are the biggest importers from China, this fact clearly points to the prevalence of the traditional consolidation model. Products flow from China to North American or European ports and into the retailers' DCs.

Consider: *With traditional consolidation, more handling and transportation increases costs. Product quality and/or acceptance are generally performed once received in the destination country, which lengthens the time to issue resolution. Also, costs are incurred to dispose of unsold goods and goods that do not meet quality standards.*

3. DC Direct

With the DC direct process, goods are received from multiple suppliers and stored within a Chinese customs approved export (CAE) warehouse. *Figure 5* illustrates this type of warehouse, but the actual location could be near any major Chinese port. At the warehouse, DC-level orders are planned and consolidated to FCLs that contain multiple SKUs and multiple suppliers. Upon arrival at the destination port in Europe or North America, FCLs are shipped direct to a company's DC(s) via inland trucking or intermodal. This model avoids the time and expense of third-party deconsolidation once the container is received at the port.

Figure 5. DC Direct Process

This distribution scheme is designed to create more cost-effective FCL shipments by consolidating shipments across suppliers in China. Shipments are built specific to individual DCs, and the port of entry (POE) is determined based on minimizing total transportation cost.

Product consolidation occurs at the Chinese logistics facility origin for each individual client DC, transferring this function upstream. Labor is less expensive, reducing the costs

associated with value-added services.

Consider: *Allocation decisions are made further upstream when forecast data may not be refined, and reallocation can be more difficult. Planning must be synchronized between supply chain partners, often requiring technology investments.*

4. DC Bypass

The DC bypass scheme is most commonly used for products that are bulky and often difficult to store at a DC, especially one designed for pallets or cartons. Items such as furniture, gym equipment, large automotive components, and major appliances may fall into this category. This practice expedites time to market by skipping DCs entirely. Upon arrival at the destination port, the goods are deconsolidated and shipped direct to a store, an assembly location, or a consumer via inland trucking. The goal of DC bypass is to eliminate time and expense associated with transporting from a deconsolidation center to a central DC.

Supply Chain Digest editor Dan Gilmore discusses the merits of DC bypass in a September 2008 article, *When Does DC Bypass Make Sense?* Gilmore postulates, “DC bypass can significantly reduce total cycle time – as much as 7-14 days, depending on the supply chain. That is a lot of inventory that can be taken out of the system.”

Consider: *DC bypass will still incur time to perform the break bulk activity and repack at deconsolidation facilities located near the port of entry. Allocations must occur early in the supply chain, but not as early as China since re-routing is possible at the destination port. Coordination across multiple parties requires good communication between supply chain partners. An IT investment may be required in order to transition to a DC bypass capability.*

5. Store-Ready (SRS), DC-Ready (DCRS), and Assembly Line-Ready (ALRS) Shipments

SRS, DCRS, and ALRS deliveries from a China origin DC can be employed to fully leverage the China sourcing advantage. As shown in *Figure 6*, products are received and stored in a Chinese DC from multiple suppliers. Orders from individual stores, a DC, or the assembly line-level are processed and built to pallet level in China, then consolidated to FCL.

Figure 6. Store-Ready, DC-Ready, Assembly Line-Ready Process

Containers are routed to the most appropriate destination port to minimize total

transportation cost. Upon arrival at the destination port, one of the following options occurs:

1. Transload at POE for delivery direct to store, DC or assembly line;

2. Prepare multi-stop (2-3) container deliveries direct to store, DC or assembly line; or

3. Transport via intermodal, or other mode of transportation, to regional DC and shipment is cross-docked and delivered via regular store or assembly line transport.

Even when the decision is to route products to a destination country DC, storage is eliminated as product flows across the dock and directly to the store. All value-added services are performed in China at the Chinese export distribution facility to make the pallet and individual products on the pallet either store-, DC-, or assembly line-ready. The only labor required in the destination country as part of this model is unload/load activities at the cross-dock/deconsolidation facility.

Consider: *Product allocation must occur earlier in the supply chain when forecasts are not as clear and subject to change orders. Inventory is further away from the point of sale (store) or assembly plant (manufacturer), potentially amplifying any supply chain disruptions. Supply chain partners must collaborate to ensure order management meets plan dates. Also, there will most likely be a loss of cube in the container, so ocean freight costs must be considered.*

6. Achieving Lowest Delivered Cost: Factors to Consider

For companies moving product from China to European and North American markets, there are currently many options available to achieve the lowest total delivered cost. *Figure 7* on the following page provides a summary comparison of the types of service that enable the models.

Most shippers utilize multiple shipping models in order to select the best option for each supply chain. It is important to take into consideration the attributes of the product, various inventory scenarios, and their effect on COGS, selling, general and administrative expenses (SG&A), and ultimately, sales. The use of China export distribution solutions offers new options that previously may not have been considered for lowering inventory levels, while ensuring the right product is on the shelf at the right time or delivered to the assembly facility just prior to when it is required.

Factors to examine include transportation, handling and storage costs, inventory carrying costs, duties and customs, lead times, risks associated with disruptions, and returns, to name a few. It is important to analyze total delivered cost for a true comparison. Supply

chain leaders look not only at their operating budgets, but at capital expense as well. These methods will help companies arrive at the optimal supply chain model for each product or product category. The relationship of inventory to working capital to free cash flow is increasingly important and gained even more traction during the recession, when cash and cash flow were even more sought-after.

All of these concepts examine ways to take advantage of distribution capabilities in China, whether companies are sourcing from Asia, distributing in Asia, or sourcing components in Asia for final assembly in North America or Europe.

Consider: *None of the models described above are meant to be used exclusively. Most companies use a variety of these models depending on their product attributes. Different models may be used for new products being introduced versus products being replenished and even products being phased out. Different models can be used for seasonal products than for consumer staples. For example, at certain times it is acceptable for a retailer to run out of Christmas ornaments, but they never want to be out of stock on toothpaste.*

Type of Service	Attributes	Application	Pros	Cons
FCL to Single DC	• Single supplier	• Volume purchase co-mingled with other products at central DC, then shipped to regional DC	• Volume pricing • Able to delay allocation decisions	• Two-tier network = higher handling costs & transport costs • Higher days of inventory in the system • More risk of returns / no quality check at origin
FCL to POE Break Bulk	• Single supplier	• Volume purchase • Single port of entry for multiple DC network	• Lower ocean transport cost versus LCL to DC • Able to delay allocation decision	• Higher days of inventory in the system • More risk of returns / no quality check at origin

FCL Direct to Store	• Single supplier	• Big box stores	• Lowest handling cost • Lowest transport cost • Volume pricing	• Increases store labor / potential injuries • Increases store backroom storage • More risk of returns / no quality check at origin
Traditional Consolidation to Regional DC or Deconsolidation Center	• Multiple suppliers, DC specific	• Avoid LCL charges • Purchase from small volume suppliers	• Lower transport cost • Allows for later store allocation decision • Lower volume purchase • Can perform quality inspection at origin	• Requires early DC allocation decision • Does not reduce handling charges at destination • Higher inland transport cost from break bulk
Consolidation Direct to Store	• Multiple suppliers, store specific	• Big box volume	• Lower transport cost • Reduced handing	• Requires store level allocation at origin
DC Bypass	• Break bulk and repack at POE deconsolidation center	• Bulky, heavy or high-value products, seasonal promotional products	• Reduced cycle time • Reduced inventory • Store-level allocation can be delayed	• Handling costs still incurred for break bulk activity • Higher inland transport cost from break bulk

Store-Ready to DC	• Single or multiple supplier(s) – all storage, packing and consolidation occurs at origin • Shipment is ready for the store shelf	• Products not requiring rapid replenishment • Bulky, heavy, high- value, seasonal, promotional products, new product launch, special displays	• Reduced inventory cycle time reduced • Lower storage cost • Lower handling cost • Lower value add cost in China • Improves sustainability / carbon footprint	• 10-15% loss of cube in container • Requires store-level allocation at origin • Two-tier inland transport vs. store direct • If rapid replenishment is required, reorders must be filled in-country
Store-Ready Direct to Store	• Single or multiple supplier(s) – all storage, packing and consolidation occurs at origin • Shipment is ready for the store shelf	• Products not requiring rapid replenishment • Bulky, heavy, high- value, seasonal, promotional products, new product launch, special displays	• Reduced inventory • Cycle time reduced 7- 14 days • Lower handling cost • Lower value-add cost in China • Improves sustainability / carbon footprint	• 10-15% loss of cube in container • Requires store-level allocation at origin • If rapid replenishment is required, reorders must be filled in-country • Lower transport cost than store-ready to DC

Figure 7. Comparison of Distribution Models

7. Multi-Country Consolidation

Another scenario involving the use of China hubs is multi-country consolidation. As buyers continue in their quest for low-cost country sourcing, countries such as Indonesia and Vietnam are emerging as origin points. However, these countries still lack infrastructure and logistics capabilities. Often, the only option may be less than container loads (LCLs) or

full container loads (FCL) to Europe or North America, which require long lead times. This may warrant higher than desirable purchase volumes and offer little opportunity for quality control at origin.

Utilizing a hub in China in a special economic zone can defer duties, as well as provide a much lower cost for warehousing instead of bringing the goods directly into the destination country or region. The multi-country hub concept can now be combined with store-ready deliveries and bypass the domestic or regional DC network entirely. This strategy also works for components in support of final assembly.

Traditionally, supply chains were domestic in nature, and dealt almost exclusively with the question of where to source and distribute product while minimizing transportation and distribution costs. Today, supply chains are international and have to deal with multiple complexities. Decisions such as where to manufacture or source product still need to be made, but the options are vast. Other variables need consideration as well, including taxes and duties, exposure to numerous currencies, unforeseen natural disasters, and security risks. This is all before ever considering the effects of transport costs and lead times.

Consider: *As these models – and the number and complexity of the inputs – increase, so does the opportunity to draw upon expertise and tools available outside the company. External resources provide insight, experience, and guidance, and they can go a long way toward giving an organization what it needs to move forward in a timely and well-prepared manner.*

8. Looking Ahead

The predominant distribution method for U.S. and European retailers is the domestic or regional distribution network. However, the existing network is changing to one of more velocity and less storage. Large, global multinational corporations (MNCs) are making significant progress in reducing inventory, in part by utilizing logistics capabilities customized to the product category. In order to obtain the most efficient methods of getting products to their consumers, companies are beginning to accept that information replaces inventory. Those that do not settle for a "one size fits all" approach to their supply chain will find that many logistics options exist.

In *SupplyChainBrain*'s *2010 Supply Chain Management Yearbook & Resource Guide,* the article, *China: Bringing Your 'A' Game to Your China Supply Chain*, by Steven Ganster, senior vice president, Asia, Tompkins International, notes:

> "Five to 10 years ago, just being in China was enough to reap the benefits of the world's highest growth market-and workshop to the world. Times have changed and the intensity of market competition mandates that Western management bring their 'A game' to remain competitive. This is especially true for Western firms that are exploring more

ways to optimize their supply chains in cost and performance…

In 2010, China is close to being back at full throttle on both the domestic and export market fronts. The latter will evolve as the West begins to fully recover, supporting a rebound in China's export activity. Ensuring that a company's supply chain remains competitive in this fast-paced market will be a priority focus for Western management. To do this, companies need to bring best practices to their China supply chain."

9. Success Comes From Capitalizing on the Experience and Knowledge Gained by Others

Every experienced China supply chain veteran will tell companies to work with strong consultants and logistics providers that support the companies' visions. Choosing the right provider to meet the organization's needs is a critical step in implementing any of the advanced Chinese export distribution capabilities just described. Many providers have successfully deployed these models on behalf of large global companies. At the same time, there are providers who talk a good game, but lack a proven track record. It is critical to align the company with the former and avoid the latter.

The following points briefly describe a few areas in which maximizing provider relationships – beyond the direct cost of transport and storage from Chinese suppliers to the point of North American and European consumption – can eliminate costs and increase service for any business and its end customers.

a. **Inventory Management**

   Many firms allocate inventory only after it is received in-country. This ultimately results in higher inventory levels throughout the supply chain. Effective inventory management practices, facilitated by technology, enable a company to allocate inventory earlier in the supply chain. Allocating inventory earlier in the supply chain can reduce or eliminate the need to store product, and may coincide with reduced safety stock requirements in costly off- site storage locations.

   Without strong inventory management practices and tools in place, it is nearly impossible to operate a viable SRS or DCRS strategy. To successfully deploy an SRS or DCRS model, advanced supply chain planning and forecasting systems to the store, region, or assembly line level must be in place. Visibility tools are critical for support but are no substitute for effective inventory planning.

   Consider: *As a starting point, companies can begin with seasonal goods and consider safety stock storage in China. The direct model does not eliminate inventory; it simply uses it more efficiently by determining upfront where that inventory will ultimately be positioned. Safety stock storage in China may serve the same purpose for certain*

products or components and at a much lower cost. The benefit is this option eliminates the need for double – or triple – handling and multiple transport moves.

b. **Supplier Management**

Supplier management is a cultural process as well as a contractual process. Even the best supplier relationships will suffer setbacks associated with East-West cultural differences. A local party, such as an LSP or a regional supply chain consultant, is more aware of the supplier's local environment and their business practices. The provider can be instrumental in identifying more effective ways to work with suppliers who might feel more comfortable conferring with on-the-ground resources to report problems or raising issues, thus enhancing the overall relationship.

Consider: *Allowing a trusted service provider to get involved early on in the order management process can pay huge dividends later. Another practice to strongly consider is taking control of goods ex-factory. The function of order management often starts once the order is received (collected) by the logistics provider. Yet, this role can be expanded, allowing the service provider to communicate regularly with the suppliers to ensure delivery dates will be met, as well as instituting contingencies early if due dates slip.*

As China's inland transit capabilities have improved, global shippers are now reevaluating commercial terms with suppliers, and in some cases, electing to take control ex-factory instead of ex-port. Currently, inland transport costs are likely buried in the cost of goods. Duties are levied on these product costs, and there is little to no transparency to the transport component. Managing goods ex-factory can reduce duties, decrease transportation cost and increase cycle-time reliability as product pickup and delivery times provided by the LSP are communicated real-time via the web.

c. **Quality**

Horror stories abound of opening the container or crate at the point of deconsolidation only to discover product damage, shortfall, or the wrong SKU. In order to avoid these situations, many approaches to manage quality have been employed. One technique is to leverage an LSP or local quality control company to ensure product meets expectation before the product leaves China. Some providers will even support quality inspections at the supplier's location.

Consider: *Often an engineer is dispatched to examine and even photograph the product and container prior to loading. Before the product/container leaves the factory, the customer has access to any concerns and issues found with the inspection,*

including SKU confirmation, packaging and counts, as well as dunnage verification and condition.

The inspector will witness the actual handling during loading, photograph the completed load, affix the seal or witness the seal being affixed, and photograph the seal in place with its serial number in view. The inspector will also order the factory to hold the shipment while the customer reviews the report if there are nonconforming conditions. Once approved by the customer, immediate authorization for shipment and/or payment may be issued.

When companies and inspectors are properly trained on preferred quality processes, having this resource in China is far less expensive than similar activities performed in the destination country. At this point, adverse findings may be impossible or extremely costly to remedy.

d. **Customer Tracking Controls**

In order for information to replace inventory, adequate tracking controls must be in place. These controls can be set up specific to a project or merchandise plan to monitor key events in the supply chain, beginning when an order is placed with a supplier. While many systems tout these capabilities, culture/language issues cannot be ignored. That is, not all suppliers are at the same level of readiness, and not all suppliers are prepared to integrate or implement sophisticated technology applications.

Consider: *Oftentimes, it is prudent to place a provider or employee on-site to work with suppliers. The provider on the ground can help train suppliers on required data elements, even entering orders if necessary. They must be prepared to work with suppliers over the phone, fax, email and possibly face-to-face. This type of communication will ensure that expected lead times are met and, when disruption occurs, it will minimize recovery time. When selecting new products or projects for direct store delivery (DSD) or SRS programs, these qualifications and the ability to demonstrate tracking controls factor heavily into selecting of the right service provider.*

By 2012, China is projected to become the world's largest manufacturing center. So, it is reasonable to assume that exports from China will not diminish. However, the cost savings for importers of Chinese goods that are associated with China's abundant labor pool is diminishing. Operations costs in China continue to rise – driven by wage increases, acquisition of new technology, and the costs to train workers in more advanced distribution and logistics techniques. While the wage rates are still far below those of North American and European workers in similar jobs, savings are achieved beyond labor rates through improved inventory control, supplier management, product quality and customer tracking

controls when the logistics provider is fully leveraged in China.

Consider: *If a company is not already working with local, knowledgeable subject matter experts on sourcing, supplier management, quality programs, and distribution models, now is the time to begin. Also, participating in a benchmarking and best practices (B&BP) program with companies that have been doing business and thriving in China for a long time is advantageous. If a company is not involved in B&BP, it is missing out on an opportunity to avoid making mistakes and to jump ahead of the competition.*

B. Enabling Technology

Even just a few years ago, a world-class distribution center in China included any facility that employed some type of warehouse management system (WMS). Today, there are a number of facilities that are truly approaching world-class with a Tier 1 WMS, wireless networking capabilities, automated MHE, and tenured, knowledgeable logistics staff. And the numbers of operations are growing and have more capabilities.

One such indicator is that, now, it is easy to find a logistics or supply chain technology conference in China that includes recognizable companies, highlighting their newest products and services. Although, according to Tompkins Associates' resources in China, adoption of logistics technology is still in the "embryonic" stage, with only about 5% of warehouses reporting that they have sufficient IT systems. At the same time, some companies are taking matters into their own hands. They are writing their own WMS programs that are not built to international standards, instead they are using proven technologies employed more prevalently throughout the world.

" In China, adoption of logistics technology is still in the 'embryonic' stage, with only about 5% of warehouses reporting that they have sufficient IT systems."

It is also possible to find best-in-class logistics and supply chain technology companies with offerings in China. This includes companies such as Descartes, HighJump, Manhattan Associates, RedPrairie, and Zethcon, as well as many others. The hand-held computer makers, wireless communications developers, barcode printing companies, and material handling equipment (MHE) manufacturers are also there and beginning to see their products accepted.

Both the Chinese manufacturing community, as well as Chinese and foreign LSPs operating in China, have truly begun to take advantage of the best-in-class technologies and logistics experience available in the global marketplace. While some companies have chosen to make purchases directly, many others have entered into various forms of partnerships in order to gain exposure and access.

1. Growth of Warehouse Management Systems (WMS) in China

As Toby Gooley wrote in a September 18, 2009 article for *DC Velocity* entitled *Logistics technology flowers in China*:

Warehouse management systems (WMS) attracted attention early on, in large part because China's extraordinary export growth quickly overwhelmed manual warehouses and DCs. One of the earliest WMS installations was by P.G. Logistics, one of China's first and largest 3PLs. In 2003, the 3PL implemented a WMS from Infor in a distribution center it managed for Phillips Electronics. P.G. Logistics has since extended the WMS to several other facilities to serve multinational customers like Kraft Foods, Procter & Gamble, Samsung Electronics, and Unilever.

Other Chinese 3PLs quickly followed suit, incorporating warehousing software into their own operations. In 2006, for instance, Fanhang Logistics implemented RedPrairie's WMS solution. The following year, Hongxun Logistics selected HighJump Software's WMS. Tingtong Logistics is currently rolling out Manhattan Associates' ILS Integrated Logistics Solutions to 50 sites across China.

China's warehousing industry is entering its high growth phase, but there is wide variation in progress. *Figure 8* depicts the correlation between the scale of various industry sectors and the overall level of technology deployed.

Figure 8. Overall Level of DC Technology in Industries

It is interesting to note that CDC Corp. has continued to make a strong move forward in developing its suite of global supply chain technology applications. In May 2010, CDC acquired TradeBeam, a U.S. based provider of global supply chain visibility (SCV), supply chain event management (SCEM), and global trade management (GTM) solutions. Since then, CDC has also announced that is finalizing negotiations to acquire a cloud-based TMS company that it would integrate with its newly acquired GTM capabilities.

Consider: *As companies make decisions on the most appropriate WMS to deploy in their Chinese operations, it is even more important to understand the level of support available in country and in region, the number of installations currently supported, and the level of resources available to support implementations. For a company that does not have a strong internal capability to support selection and implementation, it makes good business sense to work with a trusted advisor.*

2. Global Trade Management (GTM), Supply Chain Visibility (SCV), and Supply Chain Event Management (SCEM) Applications

In the modern global trade arena, the complexities of managing the supply chain process continue to rise. Current trade regulations are constantly changing, which causes increases in costs and delays, and can even result in severe penalties. Keeping up in this complex arena has been a barrier for organizations looking to expand trade opportunities. *Figure 9* illustrates some additional complexities involved in global trade versus domestic logistics.

Speed at a competitive cost is the goal for the flow of goods through the global supply chain. With today's global reach, the number of parties involved in moving goods has increased and communication lines have been stretched beyond recognition. Visibility to the entire supply chain is no longer an option – it is a necessity. Without total visibility, advances in supply chain efficiency are very difficult to achieve.

With the supply chain stretching its boundaries, the risk of delays and disruptions has increased. Organizations need to be flexible enough to respond to these issues to keep the flow of goods moving in the supply chain. A lack of visibility to proactively address delays and disruptions is an obstacle in responding to problems and can result in costly interruptions in the supply chain.

Global Trade Complexity Matrix

	Supply Network	
Component	Domestic	Global
Cycle time	5 to 7 days	25 to 40 days
Third-party touchpoints	4	5 to 20
Government involvement	Minimal	Significant
Time zones	1 to 3	8-plus
Transport modes	1 to 3	3-plus
Transportation costs	Low	High
Languages & currencies	1	Multiple
Document requirements	Low	Significant

AMR Research, 2005

Figure 9. Global Trade Complexity

Sourcing (i.e., the determination of where to buy a product) has traditionally been determined based on availability of the best unit price. With the complexity and constant flux in trade regulations, sourcing decisions can no longer be made on unit price alone. These decisions must be made based on total delivered cost to understand true profitability.

As a result of this complex and dynamic environment, organizations are increasingly turning to GTM, and accompanying SCV and SCEM solutions to meet supply chain challenges. Visibility combined with connectivity enables event management, which drives the key

component of technology needed in the global supply chain. SCV and SCEM applications provide functionality to address visibility and manage events, while GTM provides functionality for connectivity to diverse trading partners, including customs.

Figure 10. Stanford Global Trade Process Model[2]

Figure 10 >was developed by Stanford University to provide a high-level view of just a few of the processes involved in global trade. Overall, the study documents a total of 106 different processes.[2]

SCV and SCEM solutions are designed to connect all the players within a supply chain from overseas suppliers to final customer. The goal is to efficiently manage and communicate events throughout the supply chain – from order to warehouse receipt and proof-of-delivery. The efficiency part is supported by event management and alerting capabilities that focus efforts where corrective action is required as delivery issues arise.

Consider: *Through research and discussions with supply chain executives, it has been revealed that late shipments (and the like) are not the problem. Rather, not knowing a shipment would be late is the problem. In other words, as long as supply chain events and exceptions are communicated ahead of time, contingency plans can be initiated to head off or mitigate operational disruptions.*

Stanford University and Tradebeam, Inc: *How Enterprises and Trading Partners Gain from Global Trade Management: A New Process Model for the China-to-US Trade Lane* by Warren H. Hausman, Hau L. Lee, Graham
R. F. Napier, and Alex Thompson.

3. Looking Ahead

While no one knows how quickly China's domestic distribution management capabilities will increase, they will definitely continue to move forward. Companies looking for growth now have their eyes on the 1.3 billion Chinese consumers who are gaining disposable income each year. The number of Chinese cities with populations greater than one million is around 170 and growing. As a result, selling to Chinese consumers is, or will become, an integral part of the strategy of most global companies.

According to the 2010-2011 China Business Report co-authored by Technomic Asia and The American Chamber of Commerce in Shanghai, 55% of companies have an "In China for China" strategy – producing in China for the domestic China market – as their top priority. Seventy-six percent are pursuing this strategy in some capacity.[3]

As time progresses, Chinese consumers will have as much to say about the speed in which the Chinese domestic supply chain capabilities improve as anyone. They will demand more consistent, reliable delivery of their orders – something they cannot get without access to the same level of distribution management capabilities and infrastructure of their largest trading partners: Europe and North America.

” Companies looking for growth now have their eyes on the 1.3 billion Chinese consumers who are gaining disposable income each year. “

Interestingly, with the elimination of many trade barriers, foreign companies have started to move their factories to China. They are also beginning to establish research and development (R&D) centers in the country – hoping to make full use of the country’s relatively low-cost talent resources. This increased focus and growth in both manufacturing and R&D will also continue to drive the need for better domestic supply chain capabilities.

Today, as well as in the future, China’s role for companies and their supply chains is not only sourcing and staging for retail and assembly, but is also a growing platform for finished goods and manufactured components distribution, both globally and domestically.

The following section looks more closely at the distribution management advancements underway to better serve the Chinese consumer market.

[3] Co-authored by Technomic Asia, AmCham Shanghai’s 2010-2011 China Business Report is based on the 2010- 2011 China Business Survey, a comprehensive survey of U.S. companies with operations in China. First launched in 1999, this year’s report builds on ten years survey data. This year’s survey was conducted online from mid- November to early December 2010. A total of 346 companies participated, yielding a response rate of 25%. The China Business Survey is one of the longest running surveys of U.S. companies in China. With the analysis and insights of Technomic Asia, the China Business Survey is the most analytically and methodologically rigorous survey of foreign businesses of its kind in China.

C. China’s Growing Domestic Distribution Capabilities

Today, China is generally accepted as being the “factory floor” for the world. Playing this global role has not only increased China’s exports, but its imports as well. This is because many of the parts and raw materials that come to the “factory floor” come from other countries, both Eastern and Western. China provides the labor, and then exports the finished good or component parts. It has been estimated that as much as 70% of the total flows in China’s manufacturing sector are classified as intermediate goods – goods that have been imported into China to be manufactured into a component part or assembled into a finished good for export.

It is unclear as to what degree this will change as China’s consumers’ level of disposable income rises. There may be a time when level of products exported declines, as more is

required to meet the needs of the ever-growing Chinese domestic consumer market.

In addition to sourcing and production, global business is also looking to China for profitable growth, as a new class of consumers – the size of which has not been seen before – emerges. China recently overtook Japan to become the second largest economy in the world, and indications are that it will be the world's largest economy by 2025. Companies around the world are already gearing up to either begin selling, or further ramp-up sales capabilities, into the growing China consumer market. One strong indicator of this movement is the rapid development of many organizations' distribution management capabilities within China's borders.

Until recently, the focus has been on consolidation in China. This consolidation improves supply chain capabilities when moving products manufactured in China to the end consumption points – predominantly North America and the EU With growing levels of dispensable income available to the Chinese consumer, advanced distribution concepts will emerge. These advanced concepts have been developed and deployed to export product globally from China as well as to improve Chinese domestic distribution. The increasing acceptance of Western supply chain technology has allowed China to experience the advantages of more robust, systemic capabilities.

Beyond supply chain technology, there are other indicators that distribution management capabilities are growing domestically within China. A number of large original equipment manufacturers (OEMs) have developed their own distribution channels to support their branded stores and other retailers. One example is Haier, a large home appliance manufacturer. Haier is a top player in the consumer appliance industry, and has 1,500 branded stores and 42 distribution centers with more than 30 million square feet of warehouse space across China.

Haier claims that its distribution network can distribute any product to a city consumer within eight hours, a country consumer within 24 hours, and a remote area within four days. While China's warehousing and distribution capabilities still lack sophistication, they are working hard to catch up with growing demand. Overall, there are significant opportunities for warehousing and distribution network modernization. As the country's domestic consumers fuel consumption, the requirement of more robust distribution networks increases.

Like Haier, many OEMs currently pursue just-in-time deliveries and try to hold as little inventory as possible. In order to ensure timely supply of components, they require downstream suppliers to build factories nearby, which reduces storage requirements and warehouse size. Supply chain and logistics strategies such as this are growing, and so is the need for experienced supply chain practitioners and organizations.

While some global companies are investing in internal logistics capabilities in China, foreign- owned LSPs are investing heavily in China as well. In recent years, integrated LSPs grew by a far wider margin than traditional transportation enterprises. And, starting in

2006, foreign logistics companies began setting up shop as standalone business ventures in China (Wholly Foreign Owned Enterprises, or WFOEs). To mention a few: TNT purchased Huayu Logistics Corp., and FedEx bought the joint venture that was set up with Datian Corp for US$400 million. Domestic players are upgrading and partnering to remain competitive with new entrants.

” In recent years, integrated LSPs grew by a far wider margin than traditional transportation enterprises. “

Not only is the market responding, but so is the Chinese government. Recognizing that logistics inefficiencies will hamper economic growth, the government’s 11th Five Year Plan (2005-010) includes major investments to enhance infrastructure and create a more favorable environment for logistics growth. These investments consist of thousands of miles of new roads, new rail lines, incentives for locating manufacturing operations further inland, and the development of new inland seaports.

All of the areas described above are quickly influencing the capabilities, availability and use of LSPs in China. A 2008 study by KPMG found that most multinationals doing business in China use an LSP, but only 15% of domestic firms currently outsource logistics management. However, economic downturns force manufacturers worldwide to improve operating efficiencies, and China has not been immune to the drive for stronger supply chain management. Proof is found in the growing demand for high-performing logistics providers.

Consider: *Since doing business in China is an established rule of global competitiveness for certain companies, this paper is not intended to address the pros and cons of doing business in China. Rather, the intent is to look at China’s evolution – from low-cost provider of inexpensive consumer goods, to more sophisticated manufacturer, and ultimately to becoming the world’s largest economy. It also focuses on how China’s logistics infrastructure and services are developing to meet these demands.*

II. Future Trends

The future trends that will be explored in this final section include:

- Is there a new breed of supply chain leaders?
- Will the export of Chinese manufacturing lead to future competition?

- Has the supplier and customer role reversed?

- Are the U.S. and EU still the innovators and knowledge leaders?

A. Is There a New Breed of Supply Chain Leaders?

For the past 40 years, supply chain leadership has been exhibited by the top Western companies. Today, supply chain leadership is being demonstrated by Chinese corporations, sometimes to a greater extent than their North American and European competitors.

In a blog entitled *Supply Chain Leadership and China: What the Top 25 Misses*, by Kevin O'Marah,[4] Kevin explores the responses to questions on top supply chain priorities from Chinese executives versus Americans, Europeans, and leaders from other developed countries. The major points he highlights from the responses are:

- Chinese supply chain leaders placed a higher priority on the activities that researchers would consider as being advanced or displaying leadership – such as increasing market share, improving customer satisfaction, and reducing supply chain risk.

- It is more common for the top supply chain executive to report to the CEO or president of a company in China than in the U.S. (87% of the time versus 61%).

- The average core supply chain staff count in the U.S. is 11, but the count is more than 250 in China.

- The scope of responsibilities of a supply chain leader in a Chinese company was much broader than in an American company. This infers that more responsibility, a larger staff, and higher reporting relationships can easily translate into increased leadership.

Kevin O'Marah sums up his blog by saying, "…it's increasingly clear that demonstrated leadership, while still very much a feature of the best U.S. companies, is happening more pervasively in China than among the everyday folks back here in the States."

Is it possible that the leadership traits being displayed by the heads of supply chain at a number of Chinese companies could help transition China's role from being the world's factory floor to being its supply chain coordinator? There are a number of indicators that this evolution is already in process.

[4] Kevin O'Marah, August 6, 2010, "Supply Chain Leadership and China – What the Top 25 Misses," *Gartner Blog Network*,

http://blogs.gartner.com/kevin-omarah/2010/08/06/supply-chain-leadership-and-china-%e2%80%93-what-the-top-25-misses/

B. Will the Export of Chinese Manufacturing Lead to Future Competition?

Companies around the world have come to China to leverage the relatively low labor costs for their manufacturing processes. In turn, the Chinese suppliers have been educated by their customers, honed their manufacturing skills, and have increasingly started to face the consumer market directly. Chinese companies are not only manufacturing branded products in China for sale in North American and European markets, but they are starting to open up their own manufacturing facilities in closer proximity to their new customer base – specifically in Eastern Europe. By leveraging China's low-cost labor to decrease manufacturing costs now, Western companies may see Chinese manufacturing companies competing with them in their own backyard in the future.

In a GXS blog, Mark Morley, Director of Industry Marketing for Manufacturing at GXS, shares some specifics, "Chinese manufacturing companies are also keen to establish a presence in Eastern Europe as this provides a stepping stone into the Western European market. With manufacturing plants being established nearer to the end consumer it also means that their logistics and transportation costs can be significantly reduced. The Chinese electronics company Huawei is a good example of this with their investment in new manufacturing plants in Hungary and Slovakia."[5]

C. Has the Supplier and Customer Role Reversed?

As Chinese manufacturers have gained knowledge, credibility, and scale globally, could their former Western customers become their new local suppliers? The following is an excerpt from a *New York Times* article, *Wind Farm Deal Assures Bigger U.S. Role*, By Matthew L. Wald, Published: August 6, 2010. "The United Steelworkers and two Chinese companies that will supply wind farm equipment in the U.S. announced Friday that they had signed an agreement assuring that major components of machines for a $1.5 billion wind farm in Texas would be made in the United States…The Chinese companies will also work to develop a domestic American supply chain for wind machine manufacture beyond the Texas project, the union said."[6]

As the excerpt above suggests, a Chinese manufacturing company was chosen to develop a renewable energy wind farm in the U.S. There was concern from the U.S. Steelworkers Union that the majority of all parts and materials for the project would be sourced in China. In the end, an agreement was reached that required a significant portion of the materials to be sourced domestically in the U.S.

[5]Mark Morley, August 6, 2010, "A New Dawn For China's Manufacturing Industry?" GXS Driving B2B Blog, http://blogs.gxs.com/morleym/2010/08/a-new-dawn-for-chinas-manufacturing-industry.html

[6] Matthew L. Wald, "Wind Farm Deal Assures Bigger U.S. Role," New York Times, August 6, 2010,
http://www.nytimes.com/2010/08/07/business/energy-environment/07steel.html?r=1&dbk

Even five years ago this scenario would have seemed impractical. At that time, the expectation was that an American company would win the job and the components and raw materials would be sourced wherever they were least expensive – most likely China. Instead, now, Chinese manufacturers are winning large projects in the U.S. and only through bilateral negotiations does American labor and manufacturing find a way to play a supplier role. Chinese companies are also looking for a long-term domestic supplier as they continue to develop additional projects. In this case, the role of supplier and customer seem to have been completely reversed from what was expected only a few years ago.

D. Are the U.S. and EU Still the Innovators and Knowledge Leaders?

When examining battery technology, it has been interesting to observe China's transition from a low-cost producer to a technology leader. Currently, China is recognized as the global leader in developing superior battery technology. This technology may end up being the basis for the developing electric car industry. China's manufacturing capacity is larger, has access to an increasingly educated labor pool, has newer facilities, and is producing high-quality goods.

Where once Western companies were comfortable with their superiority in design, technical capabilities, and innovation, they are now seeing these same attributes from their Chinese competition – and the Chinese are just getting started.

" China's manufacturing capacity is larger, has access to an increasingly educated labor pool, has newer facilities, and is producing high-quality goods. "

Take a look at an excerpt from a recent article from *Coatings World*, *What is the impact of the global economic decline on the world's fastest growing economy?,* by Dan Watson.
"…the leading effort in the world to develop an all- electric car is not based in Japan or the U.S. but is in China. While most people think of China as being only a low cost producer, they are in fact the leaders in developing superior battery technology for a variety of applications, including the automobile. If China's auto producers could acquire someone like Chrysler or even parts of GM this would allow them to move quickly into the U.S. market and bring with them their unique technology for an all-electric car." [7]

[7] Dan Watson, "What is the impact of the global economic decline on the world's fastest growing economy?"
Coatings World, June 1, 2009, http://www.coatingsworld.com/contents/view/19692

Closing Thoughts

According to a paper authored by Gene Tyndall, EVP, Tompkins Associates, and published by the Institute of Management Accountants, entitled *Managing the Total Costs of Global Supply Chains*,[8] a company's global supply chain can reflect as much as 90% of a company's cost base. Thus, China is, and will continue to be, an integral component of European and North American supply chains. And the opportunity to enter the China market, with its growing consumer base, is leading many companies to look to this market to help them meet shareholders' growth expectations. The stories of success – and failure – abound. Companies can minimize risk by engaging experienced advisors who understand the market and can help them navigate the emerging landscape without the pitfalls of the past.

China's landscape is changing in terms of logistics infrastructure and capabilities. These changes will continue as China carries on its journey to becoming the world's largest economy. Competition is also increasing as companies consider new models and strategies to reduce inventory and working capital, while ensuring customer and consumer needs are met. Whether China is the beginning, middle or end of a company's supply chain, these concepts – which have now moved from theory to practice – are yielding significant results for companies that leverage all that China has to offer.

For today's North American and European MNCs, chances are that their supply chains begin in China. As described by Quian Yanfeng in his article, *China's Logistics Industry at a Crossroads*, "…the increasingly complex export trade pattern, leaning more toward small orders and quick turnaround time for higher-value-added goods, is creating a strong demand for sophisticated, high-profit logistics services that involve inventory control and timely delivery of parts and components."[9]

The SRS, DCRS, and ALRS capabilities that now exist for distributing exports from China have begun to address these needs. It is up to companies to determine which model makes the most sense for their business, and to find the right partners to enable it.

[8]Managing the Total Costs of Global Supply Chains," Business Performance Management's Statements on Management Accounting, published by Institute of Management Accountants, 2008.

[9] Qian Yanfeng, "China's Logistics Industry at the Crossroads," China Daily, Updated: July 28, 2008, http://www.chinadaily.com.cn/bizchina/2008-07/28/content_6882775.htm

Consider:

- *Not all supply chains are the same. Examining various attributes and evaluating based on total delivered cost will help companies select the right scheme by customer need and/or product category.*

- *Information replaces inventory. Technology allows greater visibility, thereby reducing variability and supporting greater risk mitigation. Good planning and execution ensure success.*

- *Time-sensitive supply chains are moving toward more direct delivery (direct-to-store, direct-to- DC, direct-to-region, and direct-to-assembly line) and are succeeding.*

- *DSD/SRS reduce emissions due to fewer miles traveled and lower warehousing energy requirements.*

- *Companies can improve service, reduce transportation costs, and decrease inventory costs by using China's hubbing and consolidation capabilities. They are not just feasible, they are operational.*

- *China's consumer class is growing as is the overall Chinese market for consumer goods. As the demand for increased levels of customer service continues to rise, so does the domestic distribution capability. Companies that want to capitalize on the Chinese domestic market need to understand these domestic distribution capabilities. They also need to work with experienced LSPs and advisory organizations to find the best solution for their business.*

- *If a company is not already working with local, knowledgeable subject matter experts on sourcing, supplier management, quality programs, and distribution models, now is the time to begin. Also, if a company is not participating in a benchmarking and best practices (B&BP) program with companies that have been doing business and thriving in China for a long time, then they are missing out on an opportunity to avoid mistakes and jump ahead of the competition.*

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About Tompkins Associates and Technomic Asia

Tompkins Associates transforms supply chains for profitable growth. For more than 35 years, Tompkins has evolved with the marketplace to become the leading provider of growth and business strategy, global supply chain services, distribution operations consulting, information technology implementation, material handling integration, and benchmarking

and best practices. The company is known for innovative, practical solutions that improve supply chain performance and produce value-based results. Headquartered in Raleigh, NC, Tompkins has offices throughout North America and in Europe and Asia. For more information, visit www.tompkinsinc.com.

Technomic Asia, a Tompkins International company based in Shanghai, China (www.technomicasia.com), specializes in assisting businesses to both establish operations in Asia and to improve their processes and performance as part of their overall supply chain strategies. Technomic Asia also provides supply chain services, distribution operations consulting, technology implementation, and material handling integration in support of Chinese operations.