CHAINLINK RESEARCH

Future Forward Logistics

Creating an Extended Global Enterprise

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Second Edition

About ChainLink Research

ChainLink Research is a bold new supply chain research organization dedicated to helping executives improve business performance and competitiveness. ChainLink was founded on the premise that supply chains are market driven and that the management of the links between the companies has become the key determinant of the winners and losers. ChainLink's fresh approach to supply chain research, actionable analysis and high-impact decision-making workshops helps manufacturers, retailers and technology firms enter new markets, expand share and achieve peak performance in their markets.

ChainLink focuses solely on supply chain. Our 3PE methodology encompasses the Policies, Processes, Performance and Enablers for realizing supply chain excellence. Our world-class team has created a rich knowledge base of timely, next-generation business innovations, practices and technologies such as supply chain networks and small/smart/fast technologies. ChainLink's customers have achieved dramatic business transformation and results they could not get from other firms. We customize our research and findings to meet your specific objectives.

ChainLink Research bridges the gulf between supply chain managers and the CEO's team. Emerging and leading supply chain executives have recognized ChainLink as the foremost supply chain thought leader and action catalyst for the 21st century.

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Introduction—The Extended Global Enterprise

As enterprises focus on perceived 'core functions,' more activities are outsourced to third party providers of goods and services. This extended supply chain—from raw materials to work in process (WIP), all the way through 'store-ready' products—comprises a complex combination of functions performed in different geographic locations. The common thread from source to consumption is logistics—the intricate process of moving goods and information, in compliance with a global environment of rules, regulations and customer requirements.

Threats of global terrorism and other security issues have recently made a complex process even more challenging, requiring an in-depth understanding of all the intricacies of communication and interaction in each of the discrete links in the supply chain. Best in class logistics practices include true virtual integration among all parties, and sharing information in real-time, to ensure an integrated flow of information, facilitated through a combination of people, process and technology. Service level agreements, which define roles, responsibilities and remedies, are core to the successful partnership of logistics service providers, suppliers and their customers.

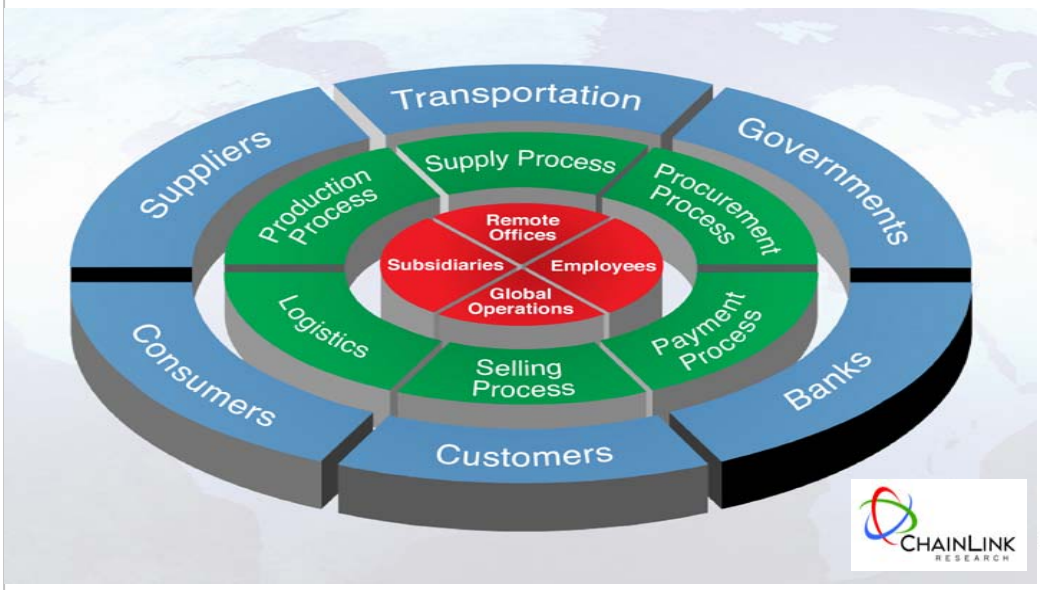

Figure 1 – Extended Global Enterprise

How this paper is organized:

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- **Globalization's New Rules of Engagement**—for many companies the change means from manufacturer to *manager of brand*
- **Extending the Boundaries- Satisfying Global Demand**—what are the key processes you have to manage- logistics to satisfy demand
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Welcome to the Global Economy!

Taking the 'road less traveled'—Highway 50 in the case of North Carolina—leads these days through a series of bleak ghost towns. Empty warehouses and manufacturing operations are evidence of the many changes that the next evolution of the industrial revolution has created in rural United States. Technology and automation have created an environment where it is possible to ensure the same consistency and quality of product, manufactured anywhere in the world. Those mainstays of the American weekend—jeans, T-shirt and sneakers—are no longer 'Made in the USA.' More likely, they are the product of an extended manufacturing process, with components sewn and assembled across multiple continents, by a labor force whose native tongue is a far cry from any of the Southern dialects of the 'Cotton Fields of Home.'

The corner store—or more commonly the corner Wal-Mart, or other mass-merchandiser—no longer prides itself on carrying produce from local farmers and cooperatives. More important is the ability to cater to the growing need for products at 'everyday low prices.' In addition, new options and alternative products are introduced to the consumer through a combination of media—to including the option to purchase goods online, in the comfort of the living room. Integrated carriers extend this virtual 'shopping mall' to the front door, delivering packages in a constant stream of consumer excess.

A visit to the local shopping mall reveals the changing roles of evolving economies, and the hierarchy of Brand Leaders indicates the new colonization. Traditional US Brands like Ralph Lauren are now proudly 'Made in China,' while leading electronics manufacturers have abandoned the high-priced real estate and labor of Japan for locations like Malaysia, Korea, Vietnam and other evolving economies. Swiss technology is now exported, and now no longer proudly bears the inscription 'Made in Switzerland.' Even the Germans are relinquishing their control of the manufacturing process, with high-end automotives now being assembled in areas of the Southeastern USA, once home to the cotton fields of the old song.

This Globalization is the new reality. Anyone who yearns for the days of the vertically integrated factory, where raw materials came in one door and finished goods were shipped out another will be disappointed. The rules of the game have changed, and those who want to play need to understand what it takes to separate the winners from the losers.

Globalization's New Rules of Engagement

The Industrial Revolution and the introduction of automation changed the role of manufacturing by reducing cost and enabling the production of high quality products at reduced prices. Over the past century, manufacturing has benefited from new technologies, from enhanced control systems and electronic components that replaced the need for human reasoning and intervention. The next dimension, information technology, provided capabilities for production planners to make decisions based on forecasts and sales projections, accelerating the manufacture of products in the correct quantities and configurations to meet demand. Inconsistent processes were identified and accounted for, creating a predictable cycle time model for the majority of engineered products. Pharmaceutical companies have also benefited from the ability to collaboratively share planning information, synchronizing the production of active compounds with the creation of life saving drugs.

Even those products that require human intervention, for example, the cut and sewn products that comprise the clothing and apparel industry, have benefited from technology. Machinery and tools are available to cut precisely to required size and fit, based on patterns created in other parts of the world, guiding machinists as they transform pieces of fabric and leather into garments that are ready to wear. Additional tools are available to package these products in 'store ready' configurations, based on color and style.

Understanding the different preferences of market sectors, as well as requirements for a range of printed media to satisfy the language needs of global—and growing—markets, has resulted in the creation of 'web-catalogues.' Available over the Internet, these catalogues include printing specifications and templates, providing contract manufacturing and packaging partners with the tools to source, build, pick, print and pack to market, at the time of demand.

Expanding into global locations provides opportunities for US enterprises to transform designs and raw materials into saleable commodities at bargain prices. The development of infrastructure and new skills within these countries creates a large and viable marketplace for consumer products, electronics, durable goods and automobiles, not to mention the associated support network of installation and repair services that is a large part of the economic value proposition. However, globalization, with its inherent efficiencies and economies of scale, is not without its downside. As we embrace new sources of supply, and

expand into new markets, we create demand for the products that we now manufacture in surrogate facilities. It is necessary, therefore, to develop new skills in order to master the complexity of diverse geographies, comprising unfamiliar people, policies/regulations, processes, and technologies.

Expeditionary military forces learned long ago that the key to conquering nations was to establish a local presence, integrate with the local culture and penetrate the 'hearts and minds' of the populace. In addition, they knew how important it was to build and maintain the logistics infrastructure required to support operations in potentially hostile locales. The peacetime version of this approach, commercial colonization, has lead to US-developed beverages, fast food, and clothing becoming part of the fabric of cultures as diverse as those found in Africa, Asia, and the emerging nations of the European Union. With their extended network of manufacturing and distribution facilities, US enterprises have evolved into 'Brand Masters,' by creating the lifestyle patterns that are emulated through the consumption of Starbucks Coffee, Coca-Cola, and Big Macs, by a rainbow of people around the globe wearing Tommy Hilfiger, Ralph Lauren, and Levis.

The value proposition has changed from one of 'creating the product' to 'managing the 'Brand'—a challenge for US-centric entities, whose knowledge of diverse cultures in many cases has been captured vicariously through the Discovery Channel or National Geographic. The complexity of global manufacturing, which may include an extensive network of 'piece parts' and small contract manufacturing operations, has in many cases been addressed by appointing 'Tier 1' suppliers, or brokers. These entities manage the day-to-day operational issues at a regional level, ensuring that components and products are manufactured according to specification and expectations. This takes care of some of the challenges of non-asset based manufacturing for product destined for US shores. There remains the issue of localization and 'make to market' on an anywhere-to-anywhere level. Understanding the impact trading in these new markets, as well as developing strategies to penetrate and exploit the growing per capita income of these evolving countries, requires a new set of skills in order to manage a homogenous environment.

Extending the Boundaries—Satisfying Global Demand

Colonial entrepreneurs of past centuries were able to successfully establish trading relations across the boundaries of oceans and cultures by studying and understanding regional tastes and preferences. This approach still applies today, and savvy executives ensure that the sales and marketing team includes participation from indigenous players. Subtle changes are made to products to meet different tastes—for example, while the familiar golden arches of the local McDonald's remain the same, in many cases, the menu reflects some unexpectedly regional differences.

Unlike the totally integrated enterprise of the tribal village whose constituents sow the seed, reap the corn, make the bread, and share the meal, corporations of this new age depend on both inter-enterprise and extra-enterprise participation. And, unlike the village, or traditional factory where activities take place within the "four walls," global supply chains comprise a series of disparate entities. Processes related to the conversion of raw into components, assembly into products, and packaging to market demand, take place across continental divides, complete with language, compliance, and physical boundaries.

The term 'supply chain' has gained in popularity when describing the commercial world of buy, make and distribute. In its broadest sense, it includes each participant, from end to end. The global supply chain includes both horizontal and vertical functions. Unlike the sequential and linear representation implied by the term 'supply chain' this 'chain of chains' is in effect a complex network of constituents, a multitude of players each of whom have a role to play in the complexity of global trade.

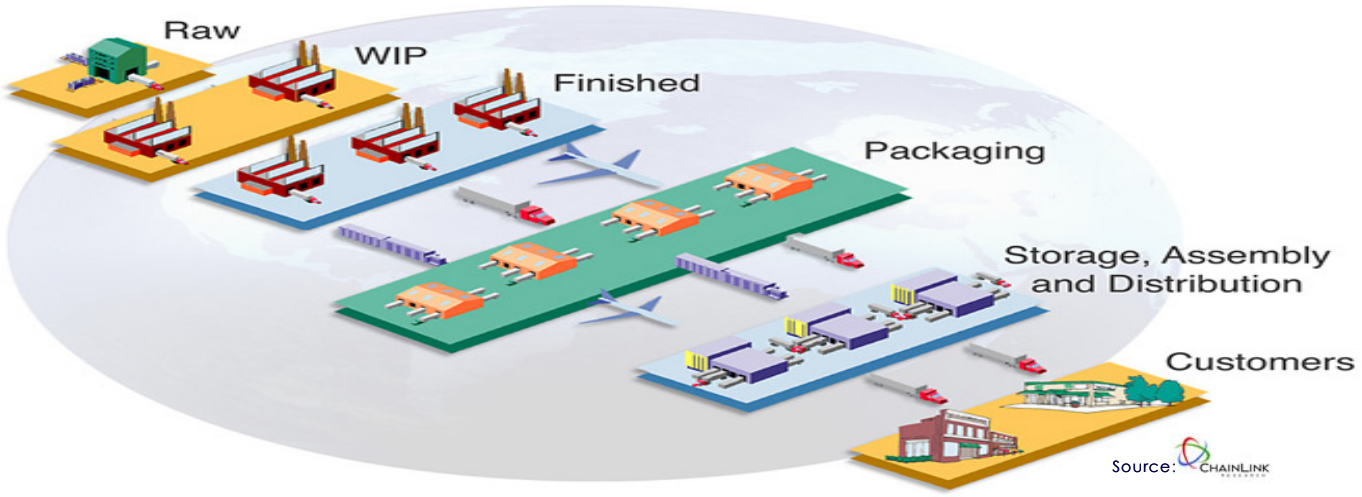

Figure 2 –Virtual Global Factory

- Virtual Factory—a combination of manufacturing and logistics processes.

- Vertical Functions (performed at the node level) include sourcing, manufacture, storage, customization and sale. Constituents include suppliers, distributors, retailers, and consumers.

- Horizontal Functions (performed at the 'link' level)—relate to the ancillary practices that support each of these core functions, most specifically the logistics components related to the movement of product from source of creation to point of demand. These include primary and secondary carriers, consolidators and freight brokers, regulatory agencies and customs brokers, banks and insurance carriers, all of whom contribute to the flow of goods, information and cash that comprises global trade.

China—What Are the Implications?

In the 1990's, American corporations feared the growth and economic expansion plans of Japanese companies who were to institute manufacturing best practices in order to bring product to market in better and cheaper configurations than their US counterparts. Today, having become victim to some of the same woes that have plagued the economies of Europe and the United States, Japan has become less of a threat. The shopping emporiums of the global economy reflect the change in economic power. Products from designer sweaters to power tools bear the same message: Made in China!

China, a nation that redefined communism, has embraced capitalism with a discipline and passion that defies comprehension. This mysterious land, previously unshared with the western world, has become the 'super-factory' of the present. The turbo-culture of communistic supercapitalism has created an environment where it is possible to harness the energy of this vast nation and use it to transform the landscape into a seemingly endless series of skyscrapers and factories. Both new and old technologies are embraced: bamboo scaffolding enables the creation of modern factories, warehouses, and other structures that form the infrastructure in which the industrious workforce transforms raw materials into consumer goods.

The import of product and raw materials from other parts of the world is a mere trickle compared to the flow of goods from this continental 'super-factory.' The constraints and regulations that have created a stranglehold on the manufacturing capabilities of US-based operations do not apply. The autonomy of a communist government, and the challenges they face as an emerging super economy and super power, means that the rulebook is written, with alarming speed, according to the needs of the moment.

With a projected annual growth rate of 8% for the period 2006 to 2010, China is on track with their goal of quadrupling its gross domestic product (GDP) for 2000 to 2020 ahead of schedule (source—China Daily—April 11, 2008). The economy of the Peoples Republic of China is the second largest in the world (after the USA) with GDP of $10.21 trillion (2006) when measured on purchasing power parity (PPP)—versus number 4 after US, Japan and Germany when measured in exchange-rate terms.

This growth has been fueled by the decision of the Chinese government to allow China to be used as a 'satellite manufacturing' and 'export platform' by multi-national corporations. As a result, China is a major player in the global market place, competing with other export-led economies in South Korea, Singapore, and Malaysia.

The economic growth of China has far-reaching impact. Previous rivals (for example, Japan) have now become economic allies, sharing each others' strengths in the area of human and other resources. And this economic collaboration is not limited to Asia. Global ties include the oil fields of Brazil, the Saudi Arabia of Latin America. Leveraging the combination of fossil fuels and ethanol, a byproduct of the cane fields that are in abundance in this enormous country, Brazil has strong economic ties with China. The sale of oil and ethanol to China fuels growth in Brazilian manufacturing, helping Brazil meet the demand for consumer goods, both domestically and globally.

However, the economic euphoria generated by the Chinese economy is not without a dark side. The same engine that is driving the creation of jobs and elevating the standard of living for the population of China and many of China's neighbors is also responsible for the growing number of dangerous goods that are filling the shelves on a global level. Daily reports of consumer products, animal and human food products, toys, pharmaceuticals, and other medical products that are contaminated, or contain toxic ingredients, or are in other ways a safety hazard, reflect the flaw in the manufacturing and quality control procedures that are in place in China. Product recall is too late in many cases. What is required is a more in-depth understanding of each of the links in the supply chain, as well as the cogs in the wheels of Chinese commerce.

The Role of Third Party Logistics Providers as Strategic Partners

The complexity of managing the flow of raw materials and goods through a series of storage, transportation, and other networks, in compliance with international trade rules and regulations, cannot be underrated. The challenge of getting the product from source of supply to demand, the logistics element of global supply chains, is one that divides the winners from the losers!

No longer relegated to a back office in the warehouse, logistics personnel now occupy corner offices in the executive suite. Like Generals planning expeditionary operations, these highly skilled professionals develop strategies to manage the flow of raw materials into manufacturing and storage locations—and finished goods to door and store. Executing the strategies is the tricky part—global logistics requires the management of many disparate entities, large and small.

Rather than develop skills internally to handle this complexity, enterprises are recognizing that this is not an area of core competence. This has resulted in the appointment of 'lead logistics providers,' otherwise known as 'third party logistics'—or 3PL providers, who have the expertise and global reach to manage the final component of supply chain management; 'delivering the goods.'

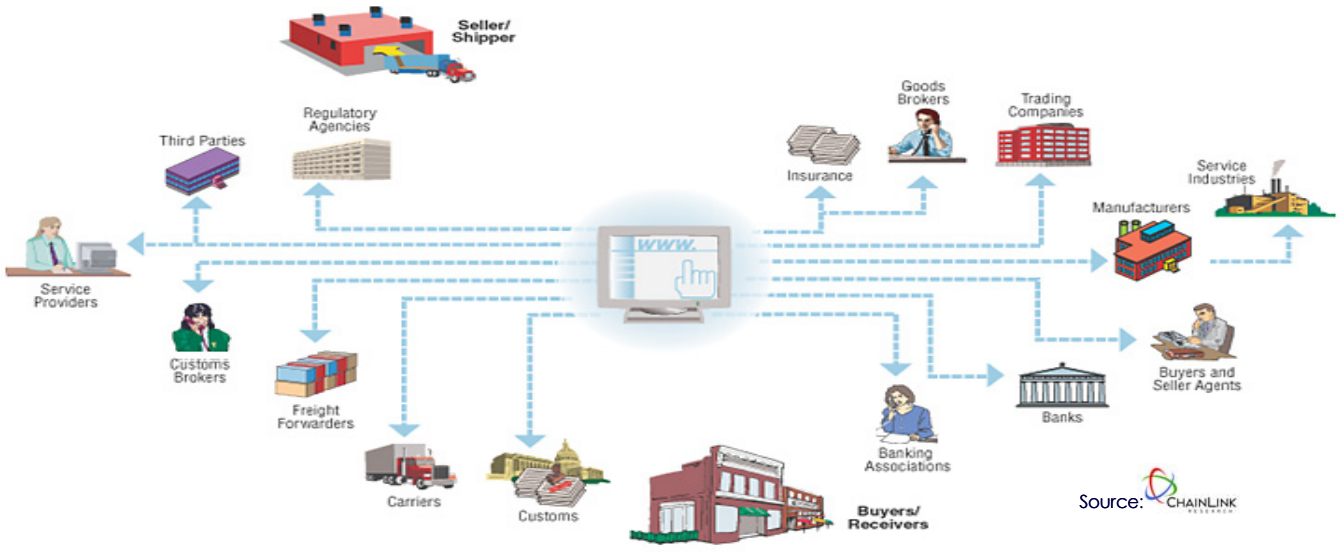

Figure 3 - Global Logistics Trade and Compliance Community

Supported by global networks and operations, these 3PL partners synchronize the flow of goods and information, ensuring that all the players are in harmony. They translate of product descriptions into customs classifications, they define transportation and storage requirements, and they manage the intricate detail that is part of the fabric of global trade. They coordinate all the players: the customs brokers, primary and secondary carriers, as well as storage and equipment providers. They monitor the critical element of the 'first' or 'last' mile, including the movement of goods from primary point of entry to manufacturing, conversion and storage locations, and the subsequent intricacies related to order fulfillment, to retail stores, or more recently, direct to consumer. This requires warehouses, delivery fleets, and regional operations. In many cases this comprises a series of small players who extend the logistics reach of the Brand Masters. Managed by 3PL providers, and dressed in the colors of the Brands that they represent, an extended network of logistics providers, both small and large, create a seamless flow of goods, information and cash, from supply to demand. This is the new 'virtual factory' where there is convergence between manufacturing, assembly, delivery, and service. New services provided by these members of the 'extended enterprise' go beyond those traditionally thought of as storage and distribution. 'Value added processing' activities include those required for retail customer compliance, including configuration, assembly, packaging, labeling, palletizing—whatever the market demands. By extending the customer relationship model beyond the initial product sale, third party providers are now able to offer additional services in the areas of product installation, recall, service, and repair.

New services extensions include:

- assembly of parts and components, creating custom products that meet the specific needs of global markets;
- packaging and labeling product to meet retail compliance and other standards at a country and regional level;
- quality control and testing of inbound goods prior to re-distribution at a global level;
- creating shelf-ready packaging and configurations;
- complete package 'customer care' with third party providers managing customer call centers, supplemented by software packages to integrate key market data back into manufacturing systems;
- assisting in channel management and merchandising, promotions and support;

- extending the sales reach through direct and indirect sales support; and
- marketing support through extension of the third party market presence.

This growth sector holds promise for third parties and 'Brand Masters' alike.

Global logistics is a complex process and requires expertise, transportation and distribution assets and storage facilities. The competition between supply chains, all focused on capturing the richness of new markets, takes a collaborative approach, but also requires clear definition in terms of roles and responsibilities. The third party constituents in the horizontal process that is supply chain logistics can be broken into vertical sectors:

- transportation (unimodal/intermodal),
- storage (goods and equipment),
- equipment/enabling tools (containers/vessels/planes), and
- compliance and regulatory services/brokerage/3PL providers.

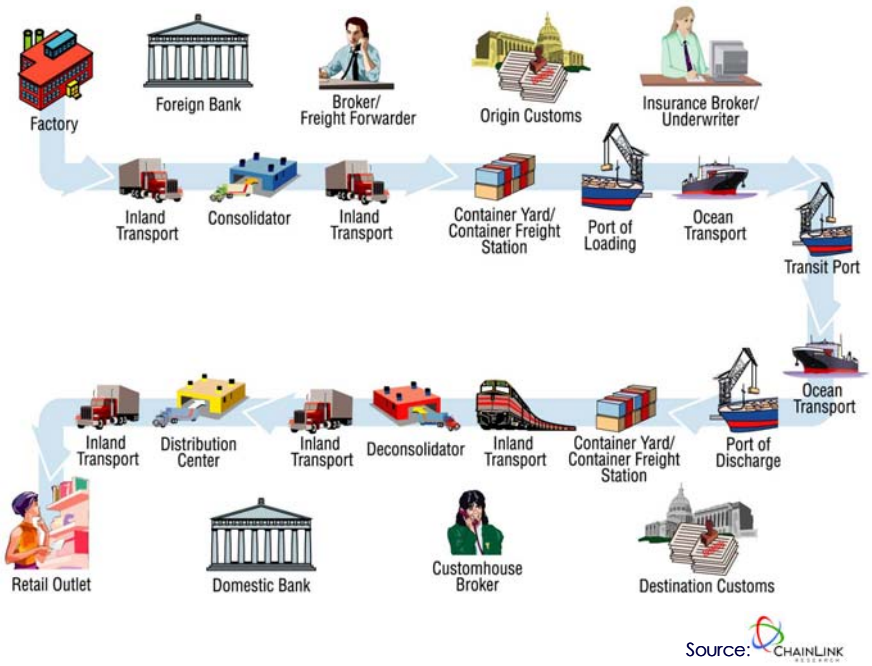

Figure 4 – A 'chain of chains'—the links in the Global Logistics Community

These are the entities responsible for the storage and movement of products, and have similar challenges to their counterparts in the manufacturing sector:

- balancing supply with demand and optimizing the use of physical assets and human resources; and
- the same yield management issues faced by manufacturing outsource partners!!!

Global logistics networks comprise a combination of storage, consolidation, examination, and transportation facilities, providing the infrastructure required to facilitate the movement of product from source to demand. Transportation hubs that support the movement of freight by ocean and air are the control valves that keep product in perpetual motion. As economies evolve, these critical components of the infrastructure are given priority, since governing bodies recognizing the importance of being able to compete as the Port (or airport) of choice. Concentrated around large cities and industrial centers, these facilities are incorporating the latest technologies, including automated material handling equipment, advanced information and interrogation technology, secure data collection, and wireless technology such as RFID. This facilitates the tracking of unitized cargo and containers as they move from consolidation centers to primary transportation via ocean vessels and aircraft. This is important, because new regulations require detailed product and transportation information to be provided by supply location to destination authorities, from point of embarkation. In addition, based on terms of trade, these key events are triggers that support the flow of documentation and cash.

However, between each of these key 'valves' in the transportation supply chain lies a challenge. A global supply chain is only as strong as the weakest link. Regional transportation, whether by road or water (a less traditional but common mode of transportation in Asia and parts of Europe is barge and other water-based regional transportation), is the weakest link in the chain. Even within the United States, with the most advanced transportation network in the world, 80% of motor carriers operate with an average of 5 tractors, complemented with a larger number of owned or leased trailers to deal with demand fluctuations.

China, home of the 'super factories of the world' faces similar challenges, the growth of the economy has depended to a large extent on the flow of raw materials that are a necessary component of the finished products that have elevated China to 'global economic super power.' The transportation and energy infrastructure is heavily bur-

dened by the need to constantly expand and upgrade, with bottlenecks and disruptions providing a cloud over the silver lining.

Another factor is the reality of playing in a global economy. Subsidies and price protection that created an equilibrium in a contained economy have slowly been eliminated, increasing since the admission of China into the World Trade Organization (WTO) in 2001, with membership requirements for economic liberalization and deregulation. And the Chinese economy is not immune to the ripple effects of increasing oil prices, increasing the percentage of transportation and logistics costs in the total cost of ownership.

Here too, the Chinese have responded to the challenge, creating a logistics infrastructure that will enable them to master the 'move' component of supply chain as they have mastered the 'make' elements. Storage, distribution and other logistics infrastructure components are being built with the same speed and efficiency that resulted in the endless production facilities. Transportation assets are being acquired by Chinese enterprises, integrated carriers are being granted whatever it takes to keep the wheels of commerce moving at breakneck speed. Soon the high priced and congested logistics resources of Hong Kong will no longer create constraints. Airports and seaports beyond compare will ensure China's position as the economic superpower of the world.

Not all manufacturing takes place in China. There are many emerging regions of the globe where labor costs have attracted the establishment of manufacturing and distribution centers. But not all labor is equal—the dexterity of the Chinese hands and minds is not apparent in many of the other 'satellite factories.' And the infrastructure reflects the difference. Antiquated equipment, vehicles, and processes, create boundaries that can only be transcended by innovation and patience. Compounded by inequality in the highway system on a global basis, the regional transportation element of global logistics is the 'Achilles Heel' of an integrated global logistics network.

Consider:

- Water based transportation, at a regional level, is used to supplement the capacity of the highway arterials that lead to the primary ports of exit in many parts of the globe. However, as with motor transportation, the capacity is finite and has limited capabilities.
- Most regional participants are not as technologically advanced as large motor carriers, or the ocean and air carriers, which is

an issue, as it is critical to integrate shipment data to create a complete view of supply chain activities in a real-time manner. In many cases, it is necessary for the 3PL to provide these entities with tools to provide information, which is then integrated into the data flow of the supply chain.

- Assuming that the 'small niche players' of the transportation network can be managed by the lead logistics provider—or 3PL—there are many regional rules and regulations that need to be understood and complied with, particularly in the less advanced trading nations where provincial fiefdoms need to be taken into account. It takes understanding the rules and playing the game in order to keep the wheels of trade in motion.

The nature of these relationships is affected by political and trade agreements and it is necessary to constantly update the rulebook. Nations with whom trading was once taboo are now free to trade with each other. Others have fallen from grace, and are included in a 'denied parties' list, and trading with them is subject to severe penalties.

In addition to the complexity of the rules and regulations imposed by international trade, a more sinister aspect needs to be considered:

Global terrorism.

September 11, 2001 is a day that will go down in posterity as the 'End of the Innocence' for the American public. Horrific scenes of mayhem and destruction, taking place at the cornerstone of international trade, the World Trade Center, highlighted the fact that globalization has a dark side. Global trade and the free flow of people, goods and information opens the door for friends and foes alike.

The economic implications of the controls that were put in place following this event are still being felt years later. The airline industry, for one, suffered from a decline in passenger travel, which in turn resulted in a reduction of airfreight capacity as flights were canceled or terminated. This in turn affected the 'logistics food chain' with short haul carriers and other parties who supplement the capacity of air carriers by providing cargo handling and transportation services. And of course, the inevitable 'closing the door after the horse had left,' which was the imposition of new and onerous controls, rules and regulations that slowed the previous flow of goods to a trickle. During the holiday period at the end of 2003, several international passenger aircraft were denied ac-

cess to the US, based on the threat of terrorism. Apart from the disruption to holiday travel, this had a negative impact on the movement of goods between the respective countries. Passenger aircraft are a primary source of airfreight capacity. The ripple effect caused by delays and reduced capacity is felt for weeks after an incident of this nature.

The issue of Homeland Security has become a concern of national focus. Although it was something new for US-based enterprises, security has always been an issue in many other nations, creating constraints to the free flow of goods across international borders. This is just another challenge to be faced when trading on an anywhere-to-anywhere basis.

It is unlikely that these threats will go away. The reality is that a global economy includes as many threats as opportunities. Contingency plans are required, including re-routing freight and identifying alternative modes, routes, and transportation providers. This is something that falls to the logistics providers to proactively monitor and control.

Monitoring the contents of ocean containers, aircraft and motor transportation has taken on new urgency. This 'Trojan Horse' of international trade is one that cannot be allowed to enter the country and further the ambitions of international terrorism. Vigilance on the part of cargo handlers in the ports of origin and destination is key to ensure that shipments are not tampered with—the first step to securing the trade network. This is supplemented by a series of reporting controls to capture supplier, forwarder and shipment information prior to dispatch.

Consider this:

On January 2, 2008, U.S. Customs and Border Protection (CBP) issued a notice of proposed rulemaking, seeking comments on the proposed Importer Security Filing and Additional Carrier Requirements – commonly referred to as the "10 + 2 Rule." The proposed regulations were required by the SAFE Port Act, which was signed into law on October 13, 2006, and would impose significant additional advance data reporting requirements on both carriers and importers for all goods that arrive within the limits of a port in the United States. Specifically, the rule requires importers or their agents, before shipment, to transmit to CBP up to 10 additional elements of information and carriers to submit a vessel stow plan as well as daily container status messages.

Proposed Importer Requirements

The 10 + 2 rule requires importers or their agents to transmit an "Importer Security Filing" to CBP no later than 24 hours before the cargo is laden aboard a vessel destined to the United States.[1]

For goods intended to be entered into the United States or delivered to a Foreign Trade Zone (FTZ), the rules require importers to transmit the following 10 elements:

1. Manufacturer (or supplier) name and address (manufacturer ID number is not sufficient);
2. Seller name and address;
3. Buyer name and address;
4. Ship-to name and address;
5. Container stuffing location;
6. Consolidator (stuffer) name and address;
7. Importer of record number or FTZ applicant identification number;
8. Consignee number(s);
9. Country of origin;
10. Commodity HTSUS number (to at least the 6-digit level).

[1] For cargo remaining on board the vessel, the filing is required at any time prior to lading.

(Source for the following section: *Hogan & Hartson LLP*
direct extract from January Bulletin, public domain info but compiled by H&H personnel.)

For shipments consisting entirely of freight remaining on board (FROB), immediate exportation (IE) goods, or transportation or exportation (T&E) in-bond shipments, the importer[2] need only provide the following five elements in its Importer Security Filing:

1. Booking party name and address;
2. Foreign port of unlading;
3. Place of delivery;
4. Ship to name and address;
5. Commodity HTSUS number.

CBP will transmit a confirmation message to the importer confirming only that the Importer Security Filing has been successfully filed; however, CBP will not validate that the data transmitted is complete and accurately transmitted. It is incumbent on the importer or the importer's agent to ensure completeness and accuracy of the filing. In an effort to reduce the burden on importers, CBP is proposing to allow an importer to submit certain data elements common to the Importer Security Filing and entry/entry summary filings (CBP Forms 3461 and 7501 respectively) once to be used for both purposes, with certain restrictions.

Similarly, a filer may submit the application to admit goods to an FTZ (CBP Form 214) and the Import Security Filing in a single transaction allowing the filer to submit the common data elements once to be used in connection with both filings.

Proposed Carrier Requirements

The proposed rule will require carriers to submit vessel stow plans via the vessel AMS system no later than 48 hours after the departure from the last foreign port. For voyages that will be less than48 hours in duration, carriers are only required to submit the stow plan prior to the vessel's arrival at the first port in the United States. The vessel stow plan must include the following standard information:

1. With regard to the vessel itself – A) the vessel name, including international maritime organization (IMO) number; B) the vessel operator; C) the voyage number.
2. With regard to each container or unit of break bulk cargo – A) the container operator, if containerized; B) the equipment number, if containerized; C) the equipment size and type, if containerized; D) the stow position; E) the hazmat-UN code; F) the port of lading; and G) the port of discharge.

In addition to the vessel stow plans, the 10 + 2 rule requires carriers to submit daily container status messages (CSMs) via the vessel AMS system within 24 hours after the message is entered into the carrier's equipment tracking system. CSMs are used to report various terminal container movements, such as loading and discharging the vessel, as well as changes in the status of containers (*e.g.,* empty or full).

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[2] We note that for FROB imports, the regulations define the importer as the carrier. For IE goods, T&E in-bond shipments and goods to be delivered to an FTZ, the importer is considered to be the party filing the IE, T&E or FTZ documentation.

These controls, in addition to requiring a more explicit sharing of product and shipment information, create additional constraints for carriers and shippers. Detention of containers at the point of embarkation negatively impacts the ability of ocean carriers to achieve optimum yield for each voyage. Vessels have to sail half full, because they have to leave questionable cargo at the dockside when their schedules cannot accommodate waiting for the proper paperwork. This also adds to the frustration of the Brand Masters, who have time and money invested in the goods which are trapped in transit.

The implications of trading globally include other financial considerations:

- Financial exposure to exchange rate fluctuations/global currencies is subject to variability, and must be taken into account when negotiating product purchase and transportation rates.
- Ocean freight is traditionally quoted and charged in US dollars. However, ancillary charges and fees tend to be charged in local currency. This is also true for airfreight rates and fees. In addition to which airfreight conversion rates can vary dependent on level of service.
- Further, international airfreight is traditionally based on the metric system of kilograms and cubic centimeters—versus pounds and inches. This can be a potential difficulty for US based entities that are accustomed to calculating transportation charges based on US parameters.
- Finally, in addition to the security-related governmental regulations, recent events in the US commercial sector have resulted in stricter compliance in terms of financial reporting and control. Sarbanes-Oxley (SARBOX) fiscal governance creates need to account for financial transactions and report activities as and where they occur. This implies the need for more control and knowledge of inventory, as it is transformed and moved through a global supply chain.

Winners Versus Losers

Best in class logistics practices include true collaboration between all parties, sharing information in real time to ensure an integrated flow of information, facilitated through a combination of people, process and technology. The value of 'best in class' supply chain practices is vast. Recent studies quantified that market leaders in supply chain management were rewarded by market capitalization with *compound annual growth rate* (CAGR) of 7 to 26 percentage points higher than their industry average.[3] In another study, the impact to shareholder value was quantified by linking the drop in stock price, due to supply chain glitches like late shipments.[4]

A key element of supply chain management is the ability to manage variability throughout the supply chain, which includes:

- customer Demand/Forecast accuracy;
- external supplier performance;
- internal supplier performance;
- manufacturing capability to deliver; and
- carrier performance and intransit cycle time.

This variability and lack of predictability has spawned inventory throughout the supply chain, with associated cost and redundancy. Evaluating the supply chain as a single network, versus a series of unrelated entities, highlights the inter-dependency of each of the processes and information intersection points. There is a hierarchical relationship between process improvements across supply chain nodes and associated links. A process improvement at one node has a positive impact throughout the supply chain. Similarly, process improvements at the link level, for example improvement in transportation cycle time, coupled with visibility to inbound shipments, enables incremental process improvement shared by all functions in the extended enterprise.

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[3] From a study by Accenture, INSEAD Business School, and Stanford University published in ASCET Volume 5.

[4] Vinod Singhal - "Supply Chain Glitches and the Impact to Shareholder Value" go to: http://www.chainlinkresearch.com/parallaxview/v09/performance1.htm

Defining the rules and playing as a team

Supply chain constituents, irrespective of role, need to consider all aspects of a global environment and marketplace when reviewing and defining business processes related to the flow of goods. The questions one must ask include:

- *What are all the cost components from new supply locations?*
- *What infrastructure issues exist and what is the impact on cycle time?*
- *Are there any restrictions that could impact goods flow?*
- *Can we guarantee a consistent source of supply?*
- *How do we control the quality of the product?*
- *How can we optimize the transportation/consolidation of products from multiple suppliers in a regional geography?*

Figure 5 – Global Supply Chain Logistics needs to take into account internal and external factors and manage these as an integrated process

Service level agreements, defining roles, responsibilities and remedies, are core to the successful partnership of logistics service providers, suppliers and 'Brand Masters.' Expectations in terms of shipment volumes, delivery requirements, receiving and storage requirements should be clearly defined to reduce uncertainty and facilitate better asset utilization by the transportation community. This will in turn result in:

- time definite delivery, and
- shared saving.

The issue of variability can be subordinated by the combination of defining activities and parameters that are required in order to achieve the objective of the business process. This will define the level of expectation for activities. Deviation from the planned performance level has a potentially negative impact on the outcome. All transactions and activities that take place between supply and demand nodes should be defined in a Service Level Agreement (SLA). This SLA provides the foundation for the potential solution. This concept can be extended to the interaction between external suppliers and manufacturing entities, as well as between the "Brand Master" and the retail stores that service the end users. Using the business rules and roles agreed to in the SLA, product supply and the associated logistics activities could be defined in an automated workflow template. Actual activities should update the plan, and deviations should trigger alerts. Using event management tools and applications, it will be possible to enforce compliance to the agreed performance levels. This compliance will reduce the variability factor, resulting in a level of confidence that will enable the reduction of inventory buffers throughout the supply network. Defining key processes, activities and related elapsed time will enable a view of the total 'best possible' cycle time. This defined process, activities, and elapsed time between key events, will form the baseline for the 'trade lane template' that is required to monitor supply chain performance. Assuming that activities are conducted as defined in the SLA, including information sharing as required, monitoring technology can be used for event tracking and exception alerting. The combination of changed behavior and the integration of external parties into a 'virtual' global supply chain can be achieved through real time information exchange, irrespective of data source.

This is a new dimension in global logistics and supply chain management. Total visibility to activities as they are performed, as defined in the SLA, will enable the same level of consistency that has been achieved through the automation of the manufacturing control process. The virtual factory, comprising a combination of transformation activities taking place in fixed locations, integrated into a synchronized process that includes logistics components, will be able to operate according to planned and predictable time-frames. The combination of an integrated flow of information, and an integrated process for the creation and movement of product to meet actual demand is a compelling value proposition. Inventory, the spawn of variability, can be reduced throughout the nodes in the supply chain, reducing cash to cash cycle time, to the benefit of all constituents.

Figure 6 – Key logistics events should be defined and tracked to reduce variability and create a consistent process

Technology enablers should be evaluated at the sequential business process level, identifying areas of impact and relationship to operational areas of the SLA. The combination of the current information systems environment and the introduction of additional supply chain execution systems should be explored to identify areas of opportunity.

A review of technologies adopted by global enterprises, with focus on the area of supply chain and logistics, has identified that the adoption of technology in this area is far from mature. There are many opportunities for these enterprises to achieve immediate benefit by 're-cycling' the current IT environment, through the introduction of newer technologies and collaboration tools.

Most Enterprises have already invested heavily in network infrastructure, web-enabled technologies and Enterprise level applications. In addition, several entities have implemented newer technologies in the storage and distribution environment. Rather than abandoning older applications, which provide specific functionality at the site and functional level, it is proposed that these applications be integrated into a 'virtual workplace' where the data source is transparent to the user. This can be achieved through a series of middleware and messaging technologies, in combination with Internet based tools. These can include applications and functions made available through industry and company level Intranets and Extranets.

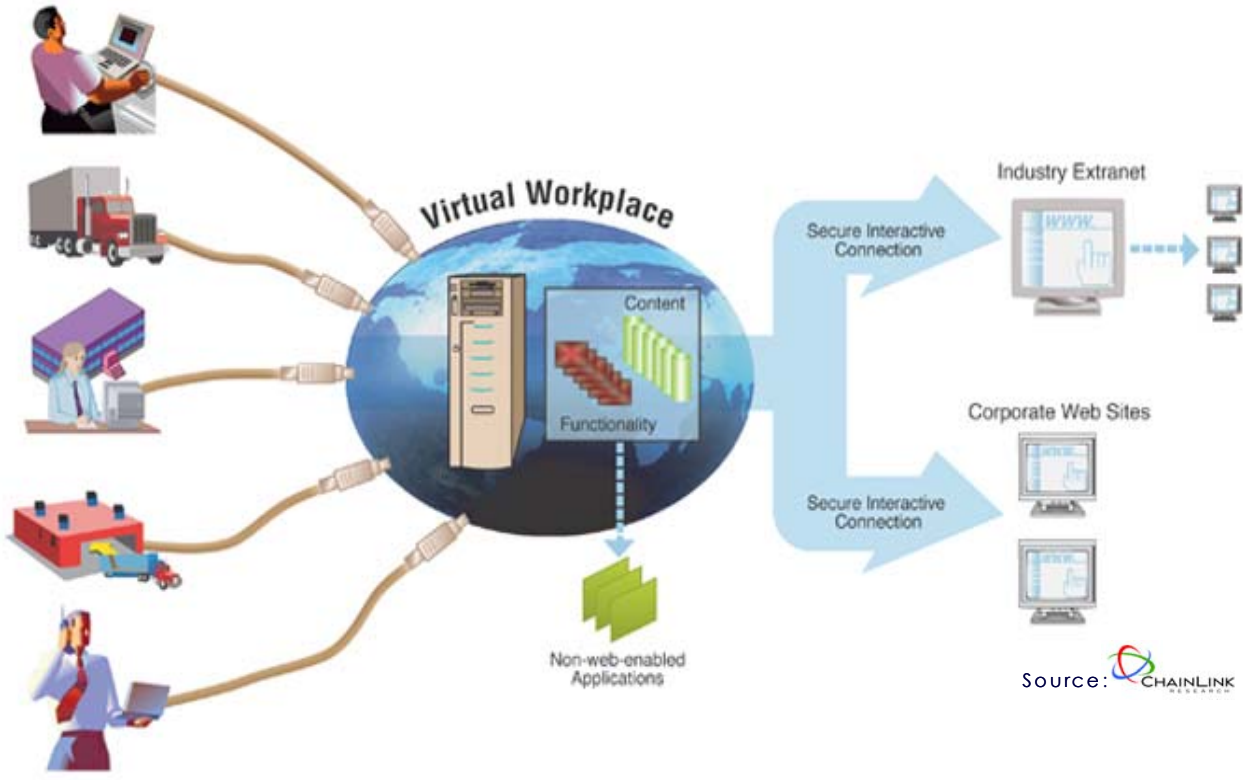

Figure 7 - This implies an organic network-based data model, providing a dynamic versus static view of what is happening, as it happens

Next Generation Supply Chain Applications

Relationships with trading partners in the area of supply chain management require more than the intent to trade. They require structured processes and procedures, supplemented by information systems, to enable the sharing of information in real time. An integrated flow of data between all global supply chain constituents is required to support the following functions:

- supplier and supply management;
- global logistics and transportation;
- regulatory compliance and Control; and
- order fulfillment and customer relationship management.

Capabilities required in order to manage the complexity of global trade at the application level can be broken into the following key areas:

- procurement and management of outsource manufacturing;
- global logistics management;
- global inventory management; and
- secure supply chain.

Procurement and Management of Outsourced Manufacturing Operations

Managing the challenges of procurement of finished goods, as well as the complexity of collaborating with outsource partners in the area of contract manufacturing, requires capabilities to manage inbound shipments of raw materials and components, as well as providing visibility of items and cost elements as they are moved through the manufacturing process. These capabilities are equally valuable in managing the movement of finished goods. This functionality is also applicable for orders to meet customer demand. Functionality includes:

- Effectively manage all the elements of the purchase order that are required to insure full global compliance for product efficacy and logistics.

- Ensure that all trade terms, payment terms, product terms and conditions are met to ensure that all products can flow downstream to meet full delivery requirements.

- Provide total visibility into the status of the orders as they are being executed, and the status of the shipment plans until they physically move into logistics.

- Facilitate automated build of landed costs of product from any origin to any destination, including the following capabilities - product cost, all logistics costs, duty and customs costs, in-bound freight cost and receiving costs. This landed cost capability extends downstream to payment auditing and execution, insuring that all expected costs are accurate and never duplicated. (This capability insures that all Sarbanes-Oxley requirements for true inventory valuations can be met, virtually eliminating the need for future inventory revaluation. Inventory cost reconciliation should be fully integrated into Legacy ERP and Financial applications, insuring full GL integrity).
- Include support tables for HTS and Compliance, visible in the product profiles, to insure that a product planned for a final destination can meet all regulatory requirements.

Global Logistics Application

Global logistics application should provide full planning and execution of the global logistics moves including:

- Route records and tables for all modes of transport and all lanes/legs. This should maintain all carrier contract obligations and statuses against those obligations. It is designed to work with freight forwarding and 3PL partners, as well as supporting an internal logistics group. It must be compatible with integrated carriers, for example Fedex and UPS.
- Full lane rating to insure that the optimal freight rate, carrier and routes can be employed to insure on-time delivery to meet the most demanding manufacturing or distribution requirements.
- Visibility into all elements of the supply chain; supported by event management, track and trace execution and workflow support. This integrated capability should insure that rules based exception reports highlight any deviation to plan and send electronic messages to authorized personnel on the distribution list.
- Customs management to insure that all rulings and compliance issues are met along with accurate HTS management. From the U.S. perspective this virtually insures compliance with all C-TPAT or other regulatory demands.
- Freight Auditing and Accounts Payable management should be managed within the logistics applications, insuring only those costs that are within acceptable parameters are paid. This eliminates the possibility of duplicate payments.

Global Inventory Management

Global inventory management should provide the ability to see inventory wherever it exists across the entire global supply chain, including raw materials and components, WIP and finished goods. This should create a '*virtual warehouse* without walls' providing:

- Total inventory visibility across all warehouses and carriers at the SKU/lot level, supporting accurate inventory placement to meet demand requirements.
- Integrating inventory across the supply chain, creating the opportunity to drive significant inventory and related costs from the entire supply chain by insuring that modes of transportation and inventory warehouse stock are optimized to meet the requirements of manufacturing and distribution.
- Accurate landed cost of all inventory SKUs, and reconciling these costs to the enterprise GL. This capability should insure that inventory costing is accurate at the lot/SKU level, virtually eliminating the need for inventory revaluation and its potential impact on downstream financial outputs (very important for Sarbanes-Oxley compliance).

Secure Supply Chain

Secure supply chain goes beyond trace and track and address security assurance at each point in the logistics network. Therefore, the logistics systems have to be able move beneath the layer of the shipment in order to see at package level, at minimum, what products are in the shipment. This supports trace to source to origin,[5] non-tampering, brand protection, and compliance validation throughout the whole process.

[5] Source to origin-original supplier, lot or batch, as well as country of origin.

Conclusion:
Where Next? Inter-Planetary Logistics?

Science fiction writers of the last century presented visions of travel under the sea and into space. These capabilities have been a reality for several decades now. This creates new opportunities for the Brand Masters and their surrogate manufacturing partners—again, facilitated by the capabilities provided by a network of logistics professionals. Space exploration has included product development and research in zero gravity environments—the idea of 'satellite space factories' are a close reality. Missions to Mars are the topic of TV talk shows, traditional press and Internet chat rooms alike. Life on other planets is less important than the creation of new locales to create new and better technologies. This is the next frontier for the explorers of our age.

All levity aside, it is clear that not much happens in the supply chain without logistics. Yet firms seemed compelled to outsource, offshore, squeeze margin and otherwise sublimate the incredible importance of the practices, organizations and value of this critical component of global supply chain success.

Without world-class logistics, your firm cannot be a global leader—or a global player. Logistics is the discipline to take us from the dream to the reality.

Future Forward Is Global — Are you ready?

Glossary and Acronyms

A

A.T.A.—Actual time of arrival

A.T.D.—Actual time of departure

Agent—An enterprise authorized to transact business in the name of another enterprise.

Air Cargo Containers—Containers designed to conform to the inside of an aircraft. There are many shapes and sizes of containers. Air Cargo containers fall into three categories: 1) air cargo pallets, 2) lower deck containers, 3) box type containers.

Air Carrier—An enterprise that offers transportation service via air.

Air Consignment—(Note: See Air Waybill)

Air Waybill (AWB)—A negotiable document used for shipment of air-freight by domestic and international carriers. This document covers the movement of shipments.

All Water—Term used when the transportation is completely by water.

Alongside—Beside or along the side of the ship.

Allotment—A share of capacity of a means of transport assigned to a certain party.

Arrival Notice—A notice from the delivering carrier to the "notify party" indicates the shipment's arrival date at a specific predetermined destination.

Assignment—The transfer of rights, duties, responsibilities and benefits of an agreement, contract or financial instrument to a third party.

Audit—As referring to freight bills, the term audit is used to determine the accuracy of freight bills.

Automated Broker Interface (ABI)—The U.S. Customs program to automate the flow of customs related information among customs brokers, importers and carriers. The ABI is an integral part of ACS that permits qualified participants to file import data electronically with Customs.

Automated Manifest System (AMS)—The U.S. Customs electronic system that automates the customs clearance process for air, sea and rail import shipments.

B

Back-haul—The return movement of a means of transport which has provided a transport service in one direction, bi-directional use of equipment.

Balance of Trade—The surplus or deficit that results from comparing a country's exports and imports of merchandise only.

Barge—The flat-bottomed inland cargo vessel for canals and rivers with or without its own propulsion for the purpose of transporting goods.

Base Currency—The currency whose value is one, whenever quote is made between two currencies.

Bill of Lading—A document issued by an entity providing transportation services that serves three purposes: 1) receipt for the goods delivered to the carrier for shipment; 2) definition of the contract of carriage of the goods from the point of origin to the point of destination, of the contract as per the noted responsibilities of the service provider, as listed on the bill of lading; 3) under certain conditions, evidence to title to the relative goods. There are two main forms of bills of lading issued:

> **Negotiable Bill of Lading**—Provides for the delivery of goods to a named enterprise or to their order (anyone they may designate), but only upon surrender of proper endorsement, and the bill of lading to the carrier or his agents. Also known as an order bill of lading.
>
> **Non-Negotiable Bill of Lading—**Provides for the delivery of goods to a named enterprise and to no one else. Also known as a straight bill of lading.

Bill of Lading, Through—A bill of lading to cover goods from point of origin to final destination when interchange or transfer from one carrier to another is necessary to complete the journey.

Bond, In (or Bonded)—Goods are held or transported "In-Bond" under customs control, either until import duties or other charges are paid, or in order to avoid paying the duties or charges until a later date.

Bonded Warehouse—Government licensed storage areas which serves to store dutiable goods without payment of duty until release by the government.

Booking Number—The number assigned to a certain booking by the carrier or his agent.

Booking Space—The act of contracting space aboard a vessel for cargo, which is to be transported.

Box—Common term to describe an ocean container.

Break Bulk Cargo—Cargo that is shipped as a unit or package (i.e. palletized cargo, boxed cargo, large machinery, trucks, etc.) but are not containerized.

Break Bulk Vessel—A vessel designed to handle break bulk cargo.

Broker—There are several definitions of the term "broker":

1) An enterprise that owns equipment and leases it out for use.
2) An enterprise that arranges the buying and selling of transportation or goods/services.
3) A ship agent who acts for the ship owner or charter in arranging charters.

Buffer Stock—A quantity of goods or articles kept in storage to safeguard against unforeseen shortages or demands.

Bulk Cargo—Goods not in packages or containers. (See also Break Bulk Cargo).

Bundling—Occurrence where two or more products are combined into one transaction for a single price.

C

Carriage—(See Transportation)

Cartage—1) The charge for pick-up and delivery of goods.

2) The movement of goods locally (short distances).

Certificate of Insurance—A negotiable document indicating that insurance has been secured under an open policy to cover loss or damage to a shipment while in transit.

Certificate of Origin—A document containing an affidavit to prove the origin of imported goods. It is used for customs and foreign exchange purposes.

Channel of Distribution—Means by which a manufacturer distributes products from the plant to the ultimate user. This includes warehouses, brokers, wholesalers, retailers, etc.

Class Rates—A grouping of goods or commodities under one general heading. All the items in the group make up a class.

Clearance—A document stating that a shipment is free to be imported into the country and all legal requirements have been met.

Commercial Invoice—A document communicating the seller's understanding of the nature of the agreement between the buyer and the seller. This is used as a source of information about the conditions of

the sale and transportation requirements. This document may be required for the importation of goods into certain countries.

Commodities—Any article exchanged in trade, most commonly used to refer to raw material and agricultural products.

Commodity Code—The code used in the Harmonized System for the classification of goods.

Common Carrier—A carrier offering the general public passenger and/or cargo transport services, and which special laws and regulations govern.

Conference Carrier—An ocean carrier who is a member of an association known as a conference. The purpose of the conference is to standardize shipping practices, eliminate freight rate competition and provide regularly scheduled service between specific ports.

Consignee—The enterprise of whom a seller or shipper sends merchandise, and who, upon presentation of necessary documents, is recognized as the owner of the goods.

Consignor—The shipper of goods, or the shipper of the transportation movement.

Consolidation—The process of grouping goods together for shipment.

Consolidator—An enterprise that provides services to "group" shipments, orders, and/or goods, etc., for facilitation or movement.

Consolidator's Bill of Lading, (also called Forwarder's Bill of Lading)**–** A bill of lading issued by a consolidator as a receipt for merchandise that will be grouped with cargo obtained from other shippers. (See also House Air Waybill).

Consolidation Point—The location where consolidation takes place.

Consular Invoice—A set of papers legalized by the importing country's consul. Many countries, especially in Latin America, require this.

Container—

- Anything in which goods are packed
- A single rigid receptacle without wheels attached that is used for the transport of goods (a type of carrier equipment)

Container Chassis—A vehicle built for the purpose of transporting a container so that, when a container and chassis are assembled, the produced unit serves as a road trailer.

Container Depot—The storage area for empty containers.

Container Number—The identification number of a container consisting of a prefix and serial numbers, for example— SEAU 1234561

Container Freight Station (CFS)—The location designated by carriers for receiving of cargo to be packed into containers/equipment by the carrier. At destination, CFS is the location designated by the carrier for unpacking of cargo from equipment/containers.

Container Freight Station Charge (CFS Charge)—The charge assessed for services performed at the loading or discharge location.

Container I.D.—An identifier assigned to a container by the carrier, see container number

Container of Flat Car (COFC)—A carriage of intermodal containers detached from their chassis on rail flat cars.

Container Size and Type—The description of the size and type of freight container as specified by the ISO (International Organization for Standardization).

Container Terminal—An area designated by the carrier for receiving, assembling, holding, storing and delivering containers, and where containers may be picked up by shippers or redelivered by consignees.

Contracted Service Parameters—The services formally agreed upon, to occur between two or more enterprises.

Conveyance—The application used to describe the function of a vehicle of transfer.

Cost and Freight (C & F)—The seller quotes a price that includes the cost of the goods and the cost of transportation to a specific destination. The buyer assumes responsibility for loss and damage, and is the party that pays for the insurance of the shipment.

Cost Insurance & Freight (CIF) - The price quote that the seller offers to the buyer includes cost of the goods, cost of insurance and transportation charges.

Country of Origin—The country where the goods were manufactured.

Credit Terms—The agreement between two or more enterprises concerning the amount and timing of payment for goods or services.

Cross-Dock—An enterprise that provides services to transfer goods from one piece of transportation equipment to another. (Conveyor belts merging, for example, merge together a shipment that was composed of separate elements and is now blended.)

Cube Out—The situation that occurs when a piece of equipment has reached its volumetric capacity before reaching the permitted weight limit.

Cubic Capacity—The carrying capacity of a piece of equipment according to measurement in cubic feet.

Currency Adjustment Factor (CAF)—A surcharge imposed by a carrier on ocean freight charges to offset foreign currency fluctuations.

Customer I.D.—An identifier assigned by a seller to a customer.

Customs—The authorities designated to collect duties levied by a country on imports and exports.

Customs Clearance—The act of obtaining permission to import merchandise from another country into the importing nation.

Customs House Broker—An enterprise that acts on behalf of the exporters and/or importers in preparing documentation and clearing shipments for international movements.

Customs Invoice—A document that contains a declaration by the seller, the shipper, or the agent as to the declared value of the shipment.

Customs Value—The value of the imported goods on which duties will be assessed.

CWT—The abbreviation for hundredweight, which is the equivalent of 100 pounds.

D

Dangerous Goods—See Hazardous Goods

Declaration Of Dangerous Goods—To comply with the US regulations, exporters are required to provide special notices to inland and ocean transport companies when goods are hazardous.

De-Consolidator—An enterprise that provides services to “ungroup” shipments, order, goods, etc., for facilitation of distribution.

Delivery Appointment—The time agreed upon between two enterprises for goods or transportation equipment to arrive at a selected location.

Delivery Instructions—A document issued to a carrier to pick up goods at a location and deliver them to another location. May also be called a Shipping or Delivery Order.

Delivery Order—A document issued by the customs broker to the ocean carrier authority to release the cargo to the appropriate party.

Demurrage (or Detention)—The penalty for exceeding free time allowed for loading/unloading under the terms of the agreement with the carrier. Demurrage is used in the rail and ocean industry, detention is used in the motor industry.

De-vanning (or Stripping)—The unloading of cargo out of a container or other piece of equipment.

Distribution Channel—The route by which a company distributes goods.

Distribution Requirements Planning—A system of determining demands for inventory at distribution centers, consolidating the demand information backwards, and acting as input to the production of materials system.

Diversion—The process of changing the destination and/or the consignee while the shipment is enroute.

Dock Receipt—A document used to accept materials or equipment at an ocean pier or accepted location. Provides the ocean carrier verification of receipt and the delivering carrier proof of delivery.

Door To Door—The through transport of goods from consignor to consignee. (Also called House to House).

Door To Port—The through transport of service from consignor to port of importation. (Also called House to Pier).

Drayage—The service offered by a motor carrier for pick-up and delivery of ocean containers or rail containers. The drayage agents usually handle full load containers for ocean carriers and rail carriers.

Drop Shipment—A request for which the goods go to the retailer direct from the manufacturer, but the invoice comes from another party in the transaction, typically the distributor from which the retailer would normally receive the goods.

Dumping—When a product is sold below cost in a foreign market, and/or when a product is sold at a lower price in the foreign market than in a domestic market, with the intention of driving out competition in the foreign market.

Dunnage—The material, usually timber or board, used in stowing cargo within a piece of equipment to prevent movement.

Duty—The charge (tax) assessed by the government on shipments imported or exported.

Duty Drawback—A refund of duty paid on imported merchandise when it is exported later, whether in same or different form.

Duty Free Zone (DFZ)—An area where goods or cargo can be stored without paying import customs duties, while awaiting manufacturing or future transport.

E

Economy of Scale—The lowering of costs with added output, because of allocation of fixed costs over more units.

Electronic Data Interchange (EDI)—The transfer of structured data by agreed upon standards, from applications on the computer of one party, to the application on the computer of another party, by electronic means.

Embargo—A prohibition upon exports or imports, either with specific products or specific countries.

Entry Form—The document required to be filed with Customs to obtain the release of imported goods, and allow duties and statistics to be collected. Also known as a Customs Entry Form or Entry.

Equipment I.D.—An identifier assigned to a piece of equipment by the carrier.

Equipment Positioning—The process of placing equipment at a selected location.

E.T.A.—The Estimated time of arrival.

E.T.D.—The Estimated time of departure.

Event Status—The current condition of the event.

Ex Works—The price that the seller quotes applies only at the point of origin. The buyer takes possession of the shipment at the point of origin and bears all of the costs and risk transporting the goods to the destinations.

Export Broker—An enterprise that brings together the buyer and the seller for a fee, and then withdraws from the transaction.

Export Declaration—A document required by the U.S. Treasury Department and completed by the exporter, to show the value, weight, consignee, destination, etc., of the export shipment. The document serves two purposes:

1) Gather trade statistics
2) A control document is required if the goods require a valid export license

Export License—A document secured from a government, authorizing an exporter to export a specific quantity of a controlled commodity to a certain country. An export license is often required if a government has placed embargoes or other restrictions upon exports.

Exporter Identification Number (EIN)—A number required for the exporter on the Shipper's export Declaration. A corporation may use their Federal Employer Identification Number as issued by the IRS, or an individual can use their Social Security Number.

F

Forwarder—(See Freight Forwarder).

Forwarder's Bill Of Lading—(See Consolidator's Bill of Lading and House Air Waybill).

Free On Board (F.O.B.) (Exchange Point)—This expression is used and followed by an exchange point. The exchange point indicates where the responsibility (risk) moves from the buyer to the seller.

> **F.O.B. Origin**—The seller agrees to deliver the goods to the point of origin. The buyer assumes all responsibility (risk) from the point of origin.
>
> **F.O.B. Port**—The seller agrees to deliver the goods to the port as indicated as the exchange point. The buyer assumes all responsibility (risk) from the port as named.
>
> **F.O.B. Destination—**The seller agrees to deliver the goods to the destination point. The buyer assumes all responsibility (risk) at the destination.

Free Along Side—The seller agrees to deliver the goods to the dock alongside the overseas vessel that will carry the shipment. The seller pays the cost of getting the shipment to the dock; the buyer is responsible for contracting the carrier, obtaining documentation and all responsibility from that point onward.

Free Time—The period of time allowed for the removal or accumulation of cargo before charges become applicable.

Free Trade Zone—An area to which goods may be imported, and are exempt from import duties. Usually, these zones permit operations for storage, exhibiting, sampling, blending, mixing, repackaging, and processing. Also, known as a free Zone and a foreign trade Zone.

Freight—Goods being transported from one place to another.

Freight All Kind (FAK)—The single freight, which is charged irrespective of commodity.

Freight Bill—The carrier's invoice for payment of transport services rendered.

Freight Charge—The established fee for transporting freight.

Freight Collect—The freight and charges to be paid by the consignee.

Freight Forwarder—An enterprise that provides services to facilitate the transport of shipments. Services can include documentation preparation, space and equipment reservation, warehousing, consolidation, delivery clearance, banking and insurance services, and agency services. The forwarder may facilitate transport by land, air, ocean, or it may specialize. Also called a forwarder or a foreign freight forwarder.

Freight Prepaid—The freight and charges to be paid by the consignor.

Freight Quotation—A quotation from a carrier or forwarder covering the cost of transport between two specified locations.

Full Container Load (FCL)—A term used when goods occupy the complete use of one container.

Full Truck Load (FTL)—A term used when goods occupy the complete use of one truck.

G

GATT—General Agreement on Tariffs and Trade.

Government Bill Of Lading (GB/L)—The bill of lading used for shipment made by the U.S. Government agencies.

Gross Weight—The entire weight of goods, packing, and container (equipment), ready for shipment.

H

Harmonized Tariff System (HTS)—International global classification system that is used to describe most world trade in goods. The HTS assigns 6-digit codes for general categories. Countries which use the HTS are allowed to define commodities at a more detailed level than 6-digits, but all definitions must be within that 6-digit framework.

Haulage—The inland transport service, which is offered by the carrier under the terms and conditions of the tariff and of the relative transport document.

Hazardous Goods—The goods that are considered dangerous as the transport of such goods that might cause harm or risk. Also called Dangerous Goods.

House To House—(See Door to Door).

House To Pier—(See Door to Port).

House Air Waybill—A bill of lading issued by a forwarder to a shipper as a receipt for goods that the forwarder would consolidate with cargo from other shippers for transport. (See also Consolidator's Bill of Lading).

I

Inland Bill Of Lading—A bill of lading used in transport from a shipping point overland to the exporter's international carrier location.

Inland Carrier—An enterprise that offers overland service to or from a point of export.

Intermediate Destination—A stopping point for a shipment prior to the final destination.

Importation Point—The location where goods will be cleared for importation into a county.

In-Bond—(See Bond-In).

Interchange Agreement—A document that facilitates the movement of equipment and/or cargo between carriers.

International Import Certificate—A document required by the importing country indicating that the importing country recognizes a controlled shipment that is entering their country, and pledges to monitor the shipment and prevent its re-export, except in accordance with its own export control regulations.

Issuing Carrier—The carrier whose name is printed on the bill of lading and with whom the contract of carriage exists.

L

Less Than Container Load (LCL)—When goods do not completely occupy an entire container.

Less Than Truckload (LTL)—When goods do not completely occupy an entire truck.

Load Tender (or Pick-Up Request)—An offer of cargo for transport by a shipper. Load tender terminology is primarily used in the motor industry.

Logistics Costs—The factors associated with the acquisition, storage, movement, and disposition of goods.

Line Item—A specific and unique identifier assigned to a product as determined by the responsible enterprise.

M

Manifest—A list of all cargoes as pertaining to a specific shipment, grouping of shipments, or piece of equipment. Ocean carriers will prepare a manifest per vessel, railroads will prepare a manifest per train, and shippers will prepare a manifest per container, etc.

Master Air Waybill—The bill of lading issued by the air carrier to their customer.

Movement of Goods—The transfer of goods from one location to another.

N

Non-Vessel Operating Common Carrier (NVOCC)—A cargo consolidator of shipments in the ocean trade, generally soliciting business and arranging for or performing containerization functions at their facility. The NVOCC will issue their own bill of lading to the shippers, and have contracted for vessel space with an ocean line. The NVOCC is considered a customer of the ocean carrier.

O

Ocean Bill Of Lading—The bill of lading issued by the ocean carrier to their customer.

Offer—(See Tender).

Order—A type of request for goods or services.

P

Packing List—A document of information on items in the shipping content. This allows the shipper to reference what is contained in the shipment, and the receiver to reconcile the goods with what is indicated was shipped.

Pick-Up-Order—A document indicating the authority to pick up cargo or equipment from a specific location.

Pro-Forms (Quote)—A type of quotation or offer that may be used when first negotiating the sales of goods or services. If the pro-forms are accepted, then the terms and conditions of the pro-forms may become the request.

R

Rail Carrier—An enterprise that offers service via rail carriage.

Rail Waybill—The bill of lading issued by the rail carrier to their customer.

Rated Bill of Lading—(See Freight Bill).

Reference Detail—Specific information that is applied to a specific item in a set context.

Regulatory —An entity or set of rules that govern a business area.

Receipt Location—A location that will receive goods.

Release Approval—A document to advise that goods are available for further movement or action.

S

Schedule Information—Data concerning service provided by an enterprise.

Shipment—A shipment is a user-defined unit containing goods, single or multiple units, and requires transportation from one location to another. A shipment becomes a shipment when it leaves the consignor's location. A shipment is complete when it arrives at the consignee's destination.

Shipper—An enterprise that fulfills the request for goods or services.

Shipping Instructions—A document advising the details of cargo and the requirements of its physical movement.

Space Request (Space and Equipment Request)—A business transaction between two enterprises. An enterprise that has goods to be moved will contact an entity that provides transport services, to request space and equipment for an upcoming shipment. The request serves as the first action to launch a set of negotiations between the two enterprises.

Space And Equipment Reservation—A business transaction between two enterprises to arrange for services to facilitate the movement of goods via a carrier.

Special Customs Invoice (Example-Canada)—In addition to a commercial invoice, some countries require a special customs invoice designed to facilitate the clearance of goods and the assessment of customs duties in that country.

Stage—The act of locating goods at a specific location to prepare for movement.

T

Tender (Offer) —This is a request for space and equipment with a motor carrier.

Terminal—A location or facility for the handling and/or temporary storage of cargo as it is loaded/unloaded or transferred between enterprises.

Terminal Operator—The enterprise responsible for the operation of facilities for one or more modes of the transportation.

Terminal Receipt—A document used to accept materials or equipment at a terminal. This provides the delivering carrier with proof of delivery and the terminal with a verification of receipt.

Terminal Pass—A document provided to the delivering carrier by the terminal operator to allow admission into the operator's facility.

Terms Of Sale—The details or conditions of a transaction. This includes detail of the payment method and timing, legal obligations, freight terms, required documentation, insurance, responsibilities of the buyer and the seller, and when the buyer assumes risk for the shipment.

V

Vessel—A floating structure designed for transport.

Vessel Manifest—A list of all cargoes on a vessel.

W

Waybill—A non-negotiable document prepared by or on behalf of the carrier at the point of shipment origin. The document shows: Point of origin, destination, route, consignor, consignee, description of shipment, and amount charged for the transport service. This is forwarded with the shipment, or directly to the agent at the transfer point or waybill destination.

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