trends

January 2011 | List all Trends articles

*By **Joseph O'Reilly***

Supply Chain Influences That Have Made Their Mark

Supply chain innovation is as old as history. Consider the very beginning, that first impulse to sow seed. Flint-sharpened sticks enabled hunters and gatherers to stop roaming, then grow and harvest staple crops. Animal husbandry soon followed. This created an impetus to store and transport goods. Surplus became capital. Capital created power and culture. Power enabled traders to expand culture. Powerful trading cultures grew into mass consuming blocs that built great transportation networks linked to new sources of supply and demand.

More recently, an industry blog attempted to document the 10 greatest supply chain innovations of all time — an admirable, if flawed, task. There's no argument against Henry Ford's assembly line, Malcom McClean's container, and the Toyota Production System making the cut. But there are inevitable lapses. What about standard time? In the mid-19th century, U.S. railroads gave shippers and consignees a benchmark for measuring what was and wasn't just in time.

Back to the beginning: where does agriculture rate? The impulse that eventually spun ideas for vertical integration and motor freight? The demand-driven forces that inspired Ford, Toyota's Taichi Ohno, and countless others?

Time is a tricky thing. So are top 10 greatest supply chain innovation lists that neglect broader influences. The past is too long and time too short to try and compartmentalize all of the many transportation and logistics achievements that have evolved. But media has a penchant for counting down the "greatest" — especially as a new year unfolds.

Inbound Logistics is no different. But we'll take our chances with a far shorter measuring stick. So much has changed in the past decade that considering the recent forces shaping today's supply chain serves a few purposes.

For one, retrospection offers perspective. The past provides a baseline for thinking about fundamentals, considering new and different avenues toward innovation, and resisting the haste that often takes things for granted.

Secondly, businesses in today's economic environment have every reason to compare before and after, measure performance, realign goals, then do it again. Benchmarking has become a supply chain standard.

We decided on a similar course by offering a brief look back at supply chain stimuli that have left their mark over the past decade. To come up with our short list, we solicited shippers, carriers, academics, and consultants to share their perspectives on important change agents between 2000 and the present.

We didn't base our criteria on innovation and technology alone — nor did we try and rank what was "greater." We explored broader dynamics that have stretched and squeezed logisticians externally in the supply chain and internally within the organization. Within these "influential" call-outs, we drill down The Notables — innovations and progressions that have come about as a result.

The 10 greatest supply chain influences of the past 10 years:

Demand-Driven Logistics. Inbound logistics continues to play a large role in global supply chains as businesses explore strategies to reduce inventory, and control transportation and costs. However and wherever demand trends and supply moves, demand-driven logistics remains a common denominator and competitive differentiator.

- **Rise of the 3PL.** Global competition provided ample incentive for businesses to outsource non-core transportation and logistics functions to a growing legion of third-party logistics providers. The 3PL explosion has yielded myriad types of non-asset and asset-based service providers, from global expediters and freight forwarders to niche vertical transportation companies. Global sourcing and selling, technological innovation, and increasing supply chain sophistication have given manufacturers, retailers, wholesalers, and government little pause to align their organizations with companies that can execute inside and outside the four walls, globally and domestically.

The Notables: 4PLs, LLPs, nearshoring, vested outsourcing

- **Terrorism.** Industry's response to terrorism has been widespread and continues to shape the way shippers and service providers manage their supply chains. Supply chain security and contingency planning used to be business process improvements and value-added services. For most companies today, they're business as usual.

The Notables: C-TPAT, TWIC, 10+2

- **Mass Communication.** The Internet revolution of the 1990s gave way to a media storm that saturated the market with new technologies and communication applications. From a macro perspective, these innovations changed the way consumers buy and businesses sell. Today, e-commerce channels compete with brick-and-mortar retail pipelines, forcing distribution strategies to follow changes in demand. In the logistics segment, advancements in information reporting and sharing — from personal communication devices to cloud computing and social media — have radically amplified the capacity and speed with which companies aggregate and disseminate data across the world in real time.

The Notables: Cloud computing, social media, wireless connectivity, GPS navigatio

- **Recession.** A decade book-ended by economic distress pressed businesses to lean on transportation and logistics as a means to squeeze out costs and add value and services that cash-strapped consumers were willing to buy. In times of want, efforts to drive creativity and innovation, efficiency and economy, are magnified.
- **Intermodalism.** In the transportation space, the growing efficacy of intermodal transport has swiftly changed expectations for how freight moves. The conversion of motor freight to rail, largely due to service stabilization and expansion among U.S. railroads and capacity and cost pressures on the ground, has allowed shippers and consignees to consider alternative transport options. At the ports, and farther inland, mixing modes allows users opportunities to circumvent congestion, rationalize labor need, and reduce fuel costs and carbon emissions.

The Notables: U.S. railroads, inland ports, barge transport

- **Sustainability.** There's no red light for the green movement. In spite of economic recession, industry has latched on to the ethos of supply chain sustainability and all its trappings. Partly driven by mass media exposure, corporate citizenry, and supply chain best practices, companies are all too willing to do more with less. The business value proposition is driven by consumer demand as well as efficiency and economy. From the food chain to renewable energy development, at the point of sale and the raw material source, green innovation continues to raise expectations.

The Notables: The EPA SmartWay program, carbon emissions calculators, wind and solar energy, LEED certificatio

- **Software-as-a-Service (SaaS).** While the maturation of core logistics technologies such as TMS and WMS has held industry captive, the real technological spark has been the method of deployment. Software-as-a-Service (SaaS) and other cloud-based solutions have transformed the market. It allows businesses of all sizes to tap targeted and sophisticated solutions that easily integrate with legacy systems and among global partners. More telling, SaaS deployments have created a common platform for combining logistics tools across core functions, building stronger synergies and better visibility while providing immediate return on scalable investment.
- **Supply Chain Goes Mainstream... sort of.** Network television advertising campaigns... College football bowl games... University degrees and vocational programs... Walmart, Amazon, Dell... In so many ways, supply chain is pushing its way into the public arena. Oddly, its climb up the corporate ladder still remains a daunting task.
- **War.** U.S. involvement in the Afghanistan and Iraq theaters has had an immense impact on the transportation and logistics sector, from both commercial and defense industry perspectives. An abundance of talent has been mustered to manage global shipments of armaments and requisite materiel in support of the war effort. The Department of Defense has benefited greatly from the expertise and lift capacity of its private-sector partners. In return, the transport and logistics sector has a fertile hiring ground for highly skilled labor.

New Year Resolutions, Supply Chain Revolutions

As businesses enter 2011 optimistic the economy will take a turn for the better, some are hedging hope with a dose of reality — that a new normal requires supply chain scalability to ensure better responsiveness to demand.

Two years removed from what seemed like terminal engine failure, Ford Motor Company is investing $600 million to overhaul its Louisville production plant in an effort to diversify and get leaner. Currently, the plant is responsible for producing the Ford Explorer, but after extensive renovations, it will be used to build a newly redesigned version of the popular Escape compact SUV. Upon completion, the plant will not only operate two shifts instead of one, but it will also employ 1,800 additional workers.

Ford envisions the factory will become its most versatile manufacturing operation, producing small cars, SUVs, and wagons — assembling what consumers are buying rather than mass-producing units for discount.

With better supply chain efficiency, the automotive manufacturer hopes to build upon the 21-percent increase in U.S. sales it experienced during 2010.

The automotive sector isn't alone in optimizing the supply chain for bottom-line improvements. Following third-quarter 2010 financial results, Krispy Kreme Doughnuts reported that lower freight and distribution costs helped boost annual revenues by $6 million, pushing the company back into the black.

The company is known for its vertical integration. Krispy Kreme Supply Chain, a separate division, produces doughnut mixes and manufactures doughnut-making equipment, which all factory stores, both company and franchise, are required to purchase. It also sells other ingredients, packaging, and supplies.

Higher sales by company and franchise shops drove profit improvements in the Krispy Kreme Supply Chain segment, with international franchise business continuing to exceed expectations.

Elsewhere in the food chain, Pinnacle Foods Group recently consolidated manufacturing for its Nalley's Chili and Brooks Beans from Tacoma, Wash., into its Armour canned meat plant in Fort Madison, Iowa — a production stew designed to improve long-term brand growth.

The company's acquisition of Birds Eye Foods in December 2009 created surplus production capacity, with two meat canning plants processing similar products. The plant consolidation in Fort Madison creates a more efficient supply chain as the facility is geographically situated closer to source ingredients.

To facilitate the move from Tacoma, Pinnacle Foods is adding a 17,000-square-foot extension to the Fort Madison plant. In total, the company intends to invest approximately $20 million.

Cautious Pessimism Pervades NITL Conference

The mood at the November 2010 TransComp Exhibition and Intermodal Expo in San Diego can best be described as cautious pessimism.

While freight volumes had been improving or stabilizing in the weeks leading up to the combined meetings of the National Industrial Transportation League (NITL), Transportation Intermediaries Association (TIA), and the Intermodal Association of North America, there was ample cause for concern about capacity, and near- and mid-term outlooks.

As a result of these concerns, subtle changes are taking place in the logistics segment, if a roundtable discussion hosted by TIA is any indication. One manifestation is a stronger focus on strategic carrier relationship management in place of the transactional approach favored by many brokers. The difference can be described as a move from simply finding capacity to keeping it.

During the discussion, brokers acknowledged the importance of keeping an eye on payables to ensure carriers are being treated fairly. "Trust your carriers as much as possible, and don't tighten the screws too much while the pendulum is on your side, because it will swing back," said one broker.

Some see that pendulum ready to swing, and swing big. Lending some gravity to the situation is CSA 2010, the Carrier Safety Analysis program that more closely monitors driver safety and fitness. Estimates are that the effects of CSA 2010, combined with other regulatory changes and driver retirements, could lead to a 10-percent reduction in the number of qualified drivers available to move freight.

CARRIER SELECTION: WHO'S LIABLE?

As recordkeeping and reporting requirements roll across the industry, concern is growing over liability for carrier selection. That concern, expressed during the TIA broker roundtable, is also shared by shippers.

Using a broker doesn't insulate a shipper from liability, but brokers aren't off the hook, either. With carrier safety information publicly available — down to driver records — it is important for brokers and shippers to establish written carrier selection safety and fitness protocols, and to document that compliance.

CSA 2010 information was made publicly available in December 2010. Brokers and, at a slower pace, shippers, have begun the struggle to gain a solid grip on safety and compliance, along with potential liability.

Solutions, such as safety scorecards, are emerging. "One key is real-time data on CSA safety scores," said Jeff Tucker, CEO of QualifiedCarriers.com, a provider of transportation compliance and safety management tools, in an interview on the exhibit floor.

"Safety ratings and other information, such as operating authority and insurance, have always been available, but the new, enhanced recordkeeping adds much more information and a need for greater timeliness," he noted.

Shippers need powerful tools for day-to-day monitoring and decision-making, not simply reports for review before finalizing or renewing carrier contracts. In fact, contract compliance information becomes part of the database and is measurable. Bulletins and alerts can indicate not only when a carrier is approaching a shipper- or broker-set CSA compliance threshold, but also when contracts are expiring and other performance and compliance information.

One issue associated with CSA is that carrier data was not available in advance. One source suggests as many as 35 percent of carriers won't be qualified once CSA scorecards are implemented. In addition, driver safety issues stick with a carrier for two years, even if the driver is no longer employed by the company. So, the data behind a score becomes more important moving forward.

Brokers and shippers are being urged to pre-qualify carriers. Larger shipper companies have been aware of the issue and are taking steps to establish CSA compliance thresholds, but a large number of shippers — especially smaller companies — were unaware of the potential risks associated with CSA 2010.

Walking the exhibit floor and talking to carriers and third-party logistics providers, there was unanimous agreement that the combination of CSA 2010 and potential revision of Hours-of-Service rules would result in serious carrier capacity reductions. But, said one broker, "if shippers hear a constant refrain without a solid foundation for why carriers were expecting tighter capacity, they could easily ascribe it to wishful thinking by carriers who want to recoup the rate erosion that occurred during the economic downturn."

The conference's outlook, therefore, was less than buoyant, with little celebrating for returning volumes. The industry is looking ahead to a more complex regulatory regime, tighter capacity, and higher rates, though not necessarily higher margins.

— Perry A. Trunick

Weaving a Common Thread

Memphis-based Dunavant Enterprises, formerly one of the world's largest cotton merchandisers, recently spun its global logistics division into the company's core operating function. Inbound Logistics caught up with Bill Dunavant, CEO and president, and Richard McDuffie, COO, to discuss the transition and the company's new direction.

IL: Describe the process of transitioning from a cotton merchant to a third-party logistics provider.

Dunavant: It wasn't an impulse decision, but rather a natural progression of how we planned to evolve our business strategy. We were already a major logistics provider for commodities, specifically cotton. We sold the cotton trading division, but our logistics operation continues moving forward into other products. We have been doing this for more than 40 years.

We have moved millions of shipments across the globe and understand the challenges of delivering to both inbound and outbound customers. We have contacts and resources around the world to help us solve complex logistics problems. This is nothing new for us, as we have an established organization culture and requirement to respond rapidly to changing market conditions.

As we transition to a 3PL, the Dunavant Enterprises team is the same; the processes and systems are the same. We are continuing to build and expand throughout the industry, but we are using the same infrastructure that made us successful throughout the years.

IL: In terms of debuting as a 3PL, what are the advantages of being located in Memphis?

Dunavant: Memphis was the cotton capital of the world for decades; today it is one of the logistics capitals of the world. We are privileged to operate businesses in both areas. Memphis continues to expand its leadership role in global logistics with the world's leading freight airport, the fourth-largest inland U.S. port, the third-busiest trucking corridor, and the third-largest railroad center in the country. In addition, Memphis has enormous warehousing and distribution operations supporting all these transportation modes.

IL: What specific industries will Dunavant target?

McDuffie: We will focus on all commodities, retail, energy, consumer staples such as food products, and unsalable general merchandise. We will continue to focus on commodities because of our unique knowledge of adding value through our global supply chain experience.

During the past several years, we have recruited a depth of experience in specific industries, as well as the expertise to move and redistribute unsalable merchandise. Lastly, cotton is a by-product of raw materials that serve retail, so we deal with numerous manufacturers that support global textile manufacturing.

IL: Dunavant has a pedigree in freight brokerage. In today's market, how does this work in your favor?

McDuffie: It works very well. We have logistics partner relationships that go back as long as 25 years. We have a history of moving a significant amount of product in a short time due to the cyclical nature of commodities.

Environmental Pressure Cooker

Global companies are under increasing pressure to identify green alternatives for managing operations risks, particularly when it comes to the supply chain. Organizations must address "highly charged" climate change and sustainability risks as they seek to eliminate waste from their supply chains, according to an Ernst & Young report.

The report warns that demand is growing from a proliferation of supplier qualification and scorecard programs that large corporations employ to examine their carbon footprints. Consumers, investors, analysts, and other stakeholders also are demanding transparent information about product and service lifecycles.

"Supply chain and environmental professionals share a common goal: to reduce waste," says Steve Starbuck, Americas leader, climate change and sustainability services for Ernst & Young. "While these supplier programs could be seen as a burden, they are actually great opportunities to cut costs while reducing an organization's environmental footprint.

"Sustainability risks — once identified and managed — can help foster customer relationships and yield competitive advantages," he adds.

Ernst & Young advises supply chain operations professionals to assess climate change and sustainability reporting needs, including evaluating data integrity and alignment across the supply chain. In addition, they should monitor and assess existing or potential government regulations. They also need to make sure climate change and sustainability risk are included in the corporate risk register and risk management policies.

The five highly charged climate change and sustainability risks to supply chain operations, according to Ernst & Young, are:

1. **Strategic.** For many companies, the supply chain increasingly provides an opportunity to improve competitive advantage, and reduce cost and waste. Leading companies understand this link, particularly as stakeholders become more interested in social and environmental costs.
2. **Compliance.** Organizations that are required to comply with green supplier programs now need to track data on energy use and make the information available for audits. On the flip side, if an organization has instituted a green supplier program, it will need new processes to track and monitor supplier compliance and to use the data to drive decision-making.
3. **Financial.** Supply chain issues impact an organization's financial strategy in multiple ways, including: opportunities to cut costs, potential cash management and liquidity implications as a price for carbon is set in different jurisdictions, and new due diligence requirements for acquisitions. Additionally, as companies increase public disclosures in non-financial reports, CFOs and audit committees are exercising more oversight.
4. **Reputational.** Many companies are implementing supplier qualification programs to ensure they do business with suppliers that share their values, which helps them manage brand and reputational risk. As such, these companies may conduct regular supplier audits, which might include emissions, waste, and safety guidelines compliance.
5. **Operational.** Spare parts inventory management, manufacturing equipment utilization, and planned maintenance are just a few areas where efficiency could be improved. Other operational areas to assess include: unplanned downtime, reduction and innovative uses for manufacturing waste, transportation, logistics, and facilities.

AIAG Pilots New Ocean Shipping Guidelines

New communication guidelines presented by the Automotive Industry Action Group (AIAG), a not-for-profit based in Southland, Mich., aim to help ocean shippers identify waste, errors, and miscommunication across intercontinental supply chains.

The guidelines are based on the findings of AIAG's Material Offshore Sourcing (MOSS) project, which studied ocean-going supply chains —

including order, transport, and customs processes — to identify the root causes of errors that lead to shipping delays.

Among the findings:

- An estimated 15 percent of all shipments experience delays due to inaccurate or incomplete data.
- Most errors stem from the manual input of data, which is often re-keyed multiple times by different parties, and through phone and fax communication.
- North America-based automakers and suppliers may be able to reduce working capital by as much as $1.7 billion if these delays are eliminated.

The new AIAG guidelines, developed by a team of 11 supplier and solution provider organizations led by Honda of America Manufacturing and General Motors Company, are built around a trade collaboration system that uses a cloud-based Internet solution with common message templates. Essentially, every member of a supply chain that adopts the guidelines will have visibility into a shipment at any point in time, and will communicate with one another via a secure Web portal using standardized forms.

Based on the results of the MOSS study and pilot project, AIAG estimates that shippers can annually save up to four percent of the global value of imports, or a conservative estimate of $21 billion, by adopting its guidelines.