Global Supply Chains

This article is an excerpt from the fourth white paper in the Game-Changing Trends in Supply Chain series, sponsored by BT (www.globalservices.bt.com).

Real-world examples and best practices of how top companies are applying components of the EPIC framework to build and manage their global supply chain networks.

By: Mike Burnette, Associate Director of the Global Supply Chain Institute

Companies from the United States increased foreign employment by 2.4 million during the 2000s, while cutting work forces at home by 2.9 million, according to the U.S. Commerce Department. Most of this offshoring was to Asia and motivated by cost-cutting strategies that did not consider much beyond wage rates.

Research from Global Supply Chains, Evaluating Regions on an EPIC Framework—Economics, Politics, Infrastructure, and Competence, authored by Haslam professors Ted Stank, Mandyam Srinivasan, and Kenneth J. Peterson with Philippe-Pierre Dornier of ESSEC Business School in Paris, France, suggests that only a very small percentage of these organizations fully considered the hard-to-compute supply chain costs that damage performance. Going global increases cost, complexity, and risk, and with these challenges often come disruptions in the supply chain. Disruptions mean long lead times and lost sales, so while labor costs decreased, total cost of ownership in these companies increased.

Those who have succeeded in the global environment often exhibit multiple, localized supply chains located in strategic areas internationally. Under this model, regional procurement and manufacturing operations will supply the major demand centers of the area, at least for a significant percentage of product requirements. These supply pods capture the profit expansion of global sales and the security of localized supply chains.

“Global Supply Chains,” the fourth paper in our Game-Changing Trends in Supply Chains series, builds on the EPIC framework research to determine real-world best practices for global supply chains. The unsurprising conclusion is that there is no single best model applicable for every business. However, the paper does provide a diagnostic tool to help businesses determine how many supply chain assets they need and where those assets should be located.

The diagnostic tool provides nine key questions which give supply chain leaders valuable insight into their supply chain design. For example:

Is inventory management (managing cash to the lowest, productive levels) of high importance to your business?

- If cash is critical to your business, you will likely design time out of your supply chain. This element would indicate multiple, local key suppliers and manufacturing plants may be best for your business.
- If your business expects the supply chain to actively manage to low inventory levels, but does not include cash in investment decisions (not a critical measure), then few, global sites may be the best solution.

In addition, “Global Supply Chains” explores what industry leaders are currently doing to streamline their global supply chains. We interviewed ten leading companies from the United States increased foreign employment by 2.4 million during the 2000s, while cutting work forces at home by 2.9 million, according to the U.S. Commerce Department. Most of this offshoring was to Asia and motivated by cost-cutting strategies that did not consider much beyond wage rates.

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Managing Risk in the Global Supply Chain: Companies Lack Assessments or Strategies

This article is an excerpt from the third white paper in the Game-Changing Trends in Supply Chain series, sponsored by UPS Capital (www.upscapital.com).

While many supply chain executives are aware of the risks facing their supply chains, complete assessment of those risks and proactive mitigation responses are not being done effectively at most companies. In fact, 90 percent of the firms surveyed in our third study of Game Changing Trends in Supply Chain do not quantify supply chain risk when outsourcing production, and none use outside expertise to help assess supply chain risks.

The study encompassed a quantitative survey of more than 150 supply chain executives and qualitative interviews with executives from six companies. The companies surveyed ranged in size from annual earnings of $300 million to over $80 billion and covered a cross section of industries including retailers, manufacturers, and service providers.

“The supply chain is the area of a company where executives must balance operational efficiencies with customer and company needs, all without actually having direct control over many of the moving parts,” says Paul Dittmann, executive director of the Global Supply Chain Institute and the study’s author. “The visibility of material movement and control of the supply chain becomes even murkier in the global environment, and therefore the global supply chain carries a great potential risk for most firms.”

Due to its global nature, the supply chain arguably faces more risk than other areas of the company. Risk is a fact of life for any supply chain, and it can mean a lot more than lack of optimization or headaches for supply chain managers.

“A disruption or issue in any supply chain, large or small, can significantly impact a company’s revenue stream, and in some cases even jeopardize the continuity of the business,” says Dave Zamsky, vice president of UPS Capital, the finance and insurance subsidiary of UPS. “The threats are very real, but there are many ways to mitigate this risk, such as insuring losses from a third-party logistics provider.”

In spite of its prevalence, impact, and ability to be mitigated, the vast majority of companies give this topic much less attention than it deserves.

Among other findings, the study determined that normal day-to-day challenges of doing business—unexpected delays, cyber security, supplier failures, and warehouse shortages—often overwhelm executives, thereby giving them little if any time to plan for major disruptions, such as natural disasters or geo-political disruptions. In effect, managing day-to-day challenges becomes a barrier to the ability of supply chain professionals to prepare comprehensive plans for risk identification, prioritization, and mitigation.

Although this paper focuses more on higher profile problems, it is important to remember that, taken as a whole, the day-to-day problems are equally impactful. Quality problems ranked as the number one risk on the minds of those surveyed. The second ranked risk concerns the requirement for increased inventory due to a longer global supply chain.

In a key part of the study, respondents highlighted the tools they use to mitigate risks in their supply chains. Chief among these strategies is reliance on a strong, competent supplier. This is easier said than done. Firms tell us that it takes approximately two years to develop and fully certify a global supplier. The second ranked strategy to mitigate supply chain risk focuses on compressing global shipping time and cycle time variation, and the third ranked strategy is to leverage logistics visibility tools.

Surprisingly, insurance is not on the radar of supply chain professionals as a risk mitigation approach, although most consider it useful and realize they are missing a highly effectively tool.

Insurance companies and brokers are willing and eager to share best practices and have a vested interest in avoiding losses. They can be key partners in minimizing the financial effects of both daily supply chain risks and catastrophic disruptions. Because of this knowledge gap, we will be pursuing a white paper in 2015 on what supply chain professionals need to know about insurance.

Supply chain risk cries out for a process to manage it. Companies must directly set aside time for their supply chain strategy teams to evaluate the risks facing their supply chain. Once the risks facing a supply chain have been identified, they must next be prioritized. Regardless of a company’s size and geographical scope, there is no shortage of methodologies to help prioritize risks. The full white paper, available for download from the Global Supply Chain’s webpage, mentions several evaluation tools that companies can use. Only once risk has been fully acknowledged and examined can companies develop an informed plan to mitigate the high priority risks, but plans can and should be made. They could save your company millions in profit or even its very existence.

The Global Supply Chain Institute examines how to identify and actually mitigate risk in your supply chain and why most supply chain professionals haven’t done so already.

By: Paul Dittman, Executive Director of the Global Supply Chain Institute
The New Tenets of Transportation: 23rd Annual Trends and Issues in Transportation and Logistics

Year-after year, this report continues to deliver an in-depth assessment of the current state of logistics and transportation management operations.

By: Mary Holcomb, Associate Professor of Supply Chain Management, University of Tennessee and Karl B. Manrodt, Professor of Logistics, Georgia College and State University

The business world today consists of customers demanding shorter order fulfillment cycles, white glove service, and integrated, omni-channel purchasing capabilities. Customers want to order a shirt on their phone over lunch, have it shipped to their doorstep in two days time at no cost, and still be able to try it on in a different size in a store this weekend.

This comes at a time when costs are increasing over nearly every aspect of transportation and logistics, and changes in the labor market and inventory management and control are compelling firms to rethink the way they manage these activities. Transportation professionals are in effect being asked to climb a mountain, weighted down with several sleighs of baggage.

The results of the 23rd Annual Trends and Issues in Transportation and Logistics study suggest that this environment has created a struggle between two critical members of the supply chain—shippers and carriers. Carriers want to maximize profits while shippers are focused on reducing costs. Each is trying to offload the majority of the financial burden on the other, while customer expectations and the competitive market still looms in the background. Shippers and carriers are dependent on each other for long-range success, and surviving in the current business climate requires collaboration between them and an innovative approach to deliver the best value to the most demanding customers.

The tug-of-war atmosphere that exists between shippers and carriers begins with their respective goals. Our study shows that shippers rely heavily on price when choosing a strategic or core carrier, yet carriers stated that it is difficult to be innovative, strategic, and help achieve their customers’ goals while at the same time being the lowest cost provider.

Shippers also are concerned about the substantial increases in transportation spending that have occurred since last year. More than 47 percent of the study participants reported that their companies spend 4 percent of their sales or more on transportation. Realistic or not, most shippers expect better levels of service with these cost increases or at a minimum the maintenance of current service levels. The data show mixed performance outcomes relative to service. On-time delivery, one of the most important service metrics, declined for truckload, intermodal, and rail shipments.

Both parties agree that price is a major factor when choosing a strategic/core carrier. Further, they agree that many of the transportation services provided are highly standardized, which in turn makes standardization of the processes and procedures more straightforward. These factors point to a commoditization of transportation.

While at first glance commoditization of transportation services may seem like a viable avenue for shippers to reduce costs, it may be more costly in the long run. For carriers, commoditization will likely drive the relationship to a more transactional one with an emphasis on price. Shippers will increasingly depend on continuous improvement and differentiation of service to compete, and the carriers who provide these commodities can charge a premium to all.

Profit maximization and cost reduction are diametrically opposite objectives. So, how can two parties achieve success and collaborate under these circumstances? Perhaps the answer lies in common ground. Our analysis showed that shippers and carriers are aligned on two key points:

• Strategic/core carriers add value to companies through the transportation services they provide.

Study Statistics:
766 supply chain professionals (domestic and global)
$19.7 billion in domestic transportation expenditures represented
$11.4 billion in international transportation represented
15 industry sectors represented (from pharmaceuticals to food)
32.8% respondents were manufacturing sector
11.5% respondents in consumer products

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The New Tenets of Transportation

(Continued from page 3)

- Strategic/core carriers help companies achieve their business goals and objectives through the transportation services they provide.

The gap between shippers and carriers represents a zone of opportunity to change the competitive environment to a cooperative one. Instead of haggling at basecamp, carriers and shippers must build a strategy that will result in lower operating costs for the carrier, while providing better service to end customers—meaning they both conquer the summit of current business challenges.

The study posits five new tenets that should be used to pave the road for mutual prosperity:

THE NEW TENETS OF TRANSPORTATION

1| Pick Your Partners Carefully
It has been said that the difference between success and failure is a great team. The annual study results indicate that while transportation service offerings tend to be standardized across various carriers, the services provided vary considerably among them.

2| Play the Same Game
The same industry pressures make shippers desperate to reduce costs and carriers to maximize profit. If they worked together to conquer these issues instead of vying against each other, they could both win.

3| Collaboration is a Game Winning Strategy
Individual efforts are no longer sufficient in facing the complex problems of today’s global supply chains; they limit the potential to grow. Collaboration is needed in the current business environment, ultimately enabling both parties to achieve their respective goals.

4| Mind and Mine the Gaps between Current and Desired State for the Winning Edge
It is important to establish what the gaps are between current and desired practice. This analysis provides the basis for mutually deciding the priority of actions to close the gap. Shippers and carriers that master the gaps will be able to leverage their knowledge and expertise even when they have conflicting goals.

5| Maintain Your Position
As procurement gets more involved in everything from preparation and solicitation of requests for quotes (RFQs) to carrier performance and evaluation, there is concern that this department does not fully understand the complexities of transportation. Without relinquishing their key role in the process, transportation decision makers are evolving to a more jointly managed process.

The 23rd Annual Trends and Issues in Transportation and Logistics study confirmed what we have known for some time. Supply chains are weakened when individual members attempt to gain an advantage over the other, losing sight of the fact that in today’s global marketplace, it is truly supply chain competing against supply chain. As such, it is critical that all the members pull together. The existing atmosphere between carriers and shippers is untenable in the long term if both desire to succeed.
Q. What made you decide to get an MBA at this point in your career, after you had already risen to such a position of leadership and had so much experience?

A. It’s my responsibility to create the strategic plans for Kenco and our customers. We look how Kenco’s five divisions can help solve the issues they are facing in their Supply Chains. That means understanding the business from all perspectives. I’ve had a lot of experience with operations, marketing, information technology, and sales, but I wanted to be better prepared for financial discussions. After obtaining my MBA, I can definitely say that I am better prepared to have financial conversations with our customers, which was a goal of mine. This means my projects, and my justifications of those projects, are now that much stronger.

Q. Why did Kenco make the financial investment to send you back to school?

A. Kenco has a culture of investing in our people. Obtaining my MBA was something that we thought would be good for my future and the company’s future. But we’ve also seen the results.

The length of the program was really attractive to me. It’s one focused year so you can see the finish line before you start. Also, I was only away from work a total of two months spread over that year. I couldn’t have done it without Kenco’s support, but I could keep my job. And I didn’t have to move to Knoxville.

Q. Why the University of Tennessee? Why the Executive MBA program?

A. Kenco has a great relationship with UT. We’ve sent two people per year through the EMBA for Supply Chain program over the last three years. It’s a highly-ranked, highly respected program, but we’ve also seen the results.

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Q. Were there any advantages to getting your MBA that you hadn’t expected?

A. Networking with my classmates and professors was a huge benefit of the MBA. We had a small class, and this allowed for a strong bonding experience. I am confident that we will be able to help each other, personally and professionally, as we move forward in our careers.

The international portion of the EMBA was also a definite selling point. We spent our second residency period in Budapest and Brussels and our third in Lima and Santiago. They were all good, but the culture, agriculture, geography, and economics we studied in South America was a great opportunity to learn about properly setting up an organization in an emerging market.

Kenco also saw a financial return on sponsoring me almost immediately through my Organizational Action Project. I used the OAP to spend dedicated time analyzing how to leverage our long-term customers and integrate services across divisions. By the end of the program, I presented an opportunity for savings of over $275,000.

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Q. UT’s global supply chain program was recently ranked third in the country according to a report by Gartner. What does this mean?

A. The rankings imply a good many things. Most importantly, I think it validates that our research and teaching is generating and disseminating knowledge to prepare our students—at various levels—to be successful in the 21st century business environment. Our goal is to continue our role as supply chain thought leaders, and being ranked highly by one of the industry’s leading ranking organizations is our best acknowledgment of progress towards that.

It also has real market implications. Most business people struggle to understand the academic supply chain environment, and the rankings help inform them about where they should be looking for educational opportunities and who within the academic supply chain world that they should be working with.

When you’re in the top three you’re with the acknowledged leaders in the field. I believe that your actual rank is less important than the company you keep—who are those schools ranked around you with whom you are compared. Not that we won’t be striving to become number one, of course!

Q. What differentiates UT from other programs?

A. The real emphasis is end-to-end business integration for us. Our research is all highly attuned to a multifunctional concept that requires a synthesis of traditional supply chain operations with marketing, sales, finance, IT, etc. Our program seeks to provide depth across all the supply chain areas while also enhancing understanding of how to integrate across all business processes.

Our focus on end-to-end integration emerges from our belief that ‘source, make, deliver’ does not capture the full measure of the supply chain. Rather, we view supply chain management as a philosophy of doing business that focuses on total value optimization and not just a total cost orientation. Total cost is important, but it is not the metric that should drive business any more than an exclusive focus on revenue generation should drive the business. Total value optimization, incorporating revenue, cost, and asset management, should be the driving metric.

Q. How did you get here?

A. I think we moved into the top three by increasing our emphasis on strategic partnerships. Many of the firms ranked in the Gartner Top 25 Supply Chain company rankings are part of our Executive Advisory Board. We asked their senior leaders what their perspective was, and how we could better work with them to develop talent needed to succeed in the modern supply chain setting. When you position your curriculum and research around that, and pursue it with determination, the rankings fall into place.

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Download the full white papers featured in this newsletter at http://globalsupplychaininstitute.utk.edu/publications/white-papers.asp

UPCOMING WHITE PAPERS

- The ABCs of DCs sponsored by Kenco
- Supply Chain Talent: Our Most Important Asset sponsored by Ryder
- Platform Management sponsored by Mondelez
- What Supply Chain Professionals Need to Know about Insurance sponsored by UPS Capital Management
supply chain companies and discussed operations in two major areas:
- Analyzing supply chain network design (SCND) decisions for key suppliers, manufacturing, warehouses, and technical centers.
- Managing complex, global supply chains.
  These interviews resulted in five best practices within each category.

**SUPPLY CHAIN NETWORK DESIGN (SCND) BEST PRACTICES**

1. **Be driven by business strategy**
   There is no ‘one size fits all’ answer for supply chain design. A clear and concise understanding of the business needs informs supply chain requirements and is the most important step in the supply chain network design process.

2. **Strive for scale**
   The best supply chain solutions evolve when a company uses scale to create a competitive advantage. This advantage can come from leveraging volume, internal company assets, industry scale or through partnerships.

3. **Ensure competence in fact-based analysis**
   The days of having your finance and operations manager calculate the ROI on supply chain options are gone. Global supply chains require capable and experienced resources to lead the analysis with a keen understanding of the global framework.

4. **Base decisions on TCO (total cost of ownership) and NPV (net present value)**
   Utilization of NPV is common; the challenge is the TCO analysis. Real effort must be invested in determining the true cost of supply metrics like time, responsiveness, risk, quality, and inventory.

5. **Make decisions based on holistic product designs in the global environment**
   Taking a product global requires significant capital investments in the supply chain. Many global companies overestimate consumer acceptance while underestimating cost and complexity of supply chain expansions. Supply chain leaders must drive their business and R&D leaders to do the homework before the expansion commitment is made.

**MANAGING COMPLEX, GLOBAL SUPPLY CHAINS BEST PRACTICES**

1. **An effective global sales and operations planning process** with a single decision-maker responsible for global profit and revenue.

2. **A process to manage complexity**, especially product complexity, including strategies for platform management, SKU rationalization, and simplification. This ensures capital investments and supply chain overhead are focused on customer value.

3. **Strong supplier collaborative partnerships**, bringing more knowledge and creativity to solving the challenges that are stressing the entire supply chain. Suppliers experience the same complexity drivers, which magnifies the need for teamwork.

4. **A talented team on the ground** to ensure that global solutions are tailored to local needs/culture as well as provide the proper ability to respond quickly to issues in the supply chain.

5. **Clear visibility** throughout their global supply chain and rapid response capability.
   Global supply chains face disruptions from demand spikes, natural disasters, political unrest, strikes, unexpected regulatory issues, port problems and terrorism. Global supply chain time is typically four to six times longer than regional designs. Visibility from end to end in a global supply chain can save months of delay, determining if your company meets profit/revenue targets.
   Tools are available to enhance supply chain visibility. One leading-edge example we found in this research is BT Trace from BT Global.

   For the full diagnostic tool, more information on the EPIC framework, and key examples of the best practices listed above, visit [http://globalsupplychaininstitute.utk.edu/publications/white-papers.asp](http://globalsupplychaininstitute.utk.edu/publications/white-papers.asp) and download the complete white paper for free.
How Close Is Your Supply Chain to Best in Class?

We routinely assess how companies stand relative to best in class in their supply chain processes. If you are interested in learning more, contact

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The University of Tennessee maintains a best-practice database consisting of hundreds of companies. These best practices cover the entire landscape of supply chain disciplines.