One key step to finding answers to any logistics, supply chain, or technology challenge is knowing the right questions to ask.

Inbound Logistics assembled a team of supply chain and logistics technology leaders, and asked for their perspectives on the important logistics challenges and opportunities impacting your business.

More importantly, these logistics thought leaders can give you guidance when considering improvements to your business processes.

THOUGHT LEADERS

Connect, Secure, and Manage the Supply Chain

Q: How are transport and logistics firms using mobility to improve employee engagement?

A: Mobility once meant giving each driver a cell phone. Today, however, connected devices with communication applications allow drivers to get news and road updates, connect with family, and do business anywhere and anytime. By accessing training programs while waiting for a pickup, for example, drivers are more productive, and have more time for family when at home.

Mobile broadband enables field personnel by providing secure access to business applications, expert analysis, and data on inventories, parts availability, and procurement. Broader wireless connectivity helps keep drivers on the grid. Effectively engaging remote employees can improve morale, and potentially reduce turnover.

Q: What's the latest thinking on leveraging sensors to monitor and secure shipment integrity?

A: RFID, bar-code scanners, shipment-aware sensor devices, and other mobile technologies are helping secure and more effectively manage the supply chain.

Logistics providers then require an effective strategy to manage this content-rich data to help predict potential service issues, and detect possible tampering with freight or fleet systems.

In the event of a security breach or other emergency, mobile systems can forward automatic alerts and location data to service technicians or first responders.

Q: How are companies using telematics to improve business operations?

A: The convergence of communications and information processing is changing the nature of supply chain operations. Next-generation telematics is revolutionizing fleet management. With three million-plus long-haul drivers in the United States alone, many still report driving hours using paper, pens, and fax machines. Newer applications automatically track drive times and distances, create log files, and forward those to dispatch.

Predictive analytics leverages data on driving patterns, weather, traffic, and even employee lifestyles to help reduce transport-related accidents. Original equipment manufacturers increasingly use telematics to capture engine-related prognostic data, which can predict and prevent roadside breakdowns.

These technologies are now also being applied across the supply chain and logistics spectrum, from managing freight costs to jobs brokering and dynamic insurance pricing. While most fleets operate on razor-thin margins, the total cost of telematics systems—including hardware, software, and mobile network data—is coming down.

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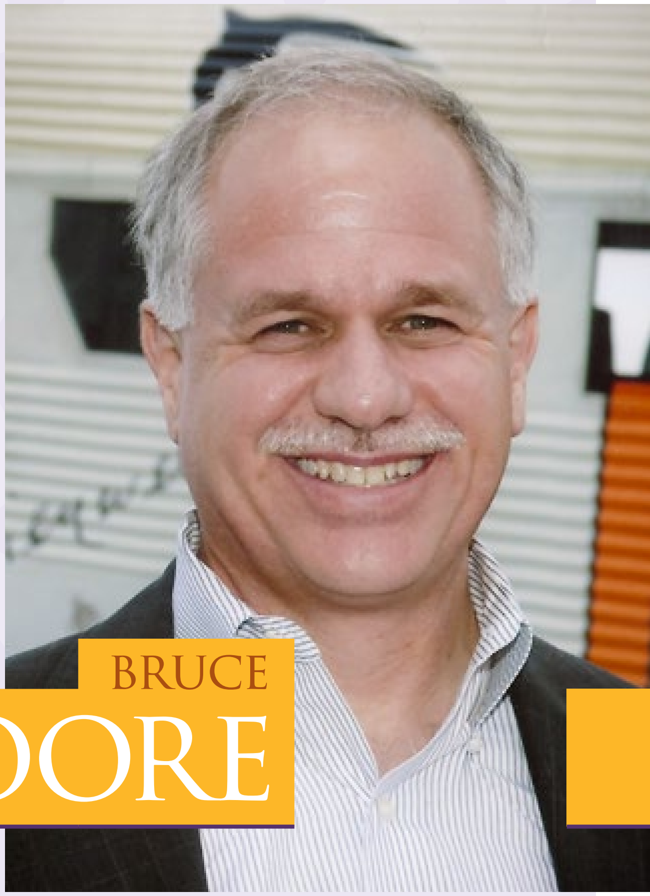

BRUCE MOORE
Client Principal, Transportation Industry
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Maximizing the Benefits of Your TMS

DANIEL VERTACHNIK
Chief Commercial Officer
MercuryGate International Inc.

Q: What are the best ways to get the full benefit of a transportation management system (TMS)?

A: First, work with your solution provider to configure the system to meet your unique requirements and workflow, and to automate managing your transportation network. A system you can implement quickly and that meets your requirements enables you to realize near-term value from a TMS.

Use the TMS to manage your entire transportation business—domestic and international, inbound and outbound, and across business units, divisions, and companies. Optimizing and executing enterprise-wide drives the maximum cost benefits from the solution.

Also, take advantage of vendor and customer collaboration, control tower visibility, and decision support to manage from order to delivery, and to ensure end-to-end shipment visibility.

Then, learn to use the product's full capabilities to maximize return on investment.

Q: What are the keys to a successful TMS implementation?

A: Selecting the right solution for your company's current and future state requirements is vital. To find the TMS best suited to your needs, thoroughly evaluate the solution, as well as the philosophy of the vendor. Working with a company that is focused on helping customers succeed will make a major difference in the project.

Having the right internal team focused on the project is also critical. Be sure business users, analysts, and IT team members work together on the project. Assign a project manager to guide the project through production go-live. This person must know the company, the critical business factors that led to the decision to acquire a solution, the current state of the business process and the desired future process state, and the requirements of each individual involved.

Work with the vendor to design the solution you expect and agreed to, and complete all the training the vendor offers. If you do not train your team, you leave money on the table.

Finally, ensure your TMS implementation's success by finding an executive sponsor to drive internal change management and best practices throughout the company.

Q: What are the most effective tools shippers can use to cut their transportation costs?

A: An effective TMS will pay dividends by reducing transportation costs. Optimizing transportation provides the availability to select the best carrier and equipment for each shipment or load. In addition, optimization will simultaneously manage inbound and outbound shipments to maximize equipment utilization, plan for backhauls when available, and provide you with the best executable plan.

TMS solutions also allow you to audit invoices to ensure carriers are billing according to contract rates. And an automated TMS improves efficiencies across the transportation supply chain, reducing costs and improving service.

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Accessible Capital, Trustworthy Partners Key to Managing Freight Costs

Q: What is the key to managing freight spend in today's environment?

A: In addition to the slow growth economy, the transportation industry has been hit with significant economic and industry challenges, including increasing regulations, driver shortages, fluctuating fuel costs, and a tight credit environment. Carrier costs are going up—costs that will likely get passed to the shipper. To keep their business moving forward, shippers and carriers need visibility, improved working capital, and partners they can trust.

For shippers, the goal is getting one system to process and pay all their freight transactions, and provide full visibility at all points. That journey starts with the basics: 100-percent auditing of transactions, ensuring 100-percent accuracy. If shippers are processing paper transactions manually, they're not checking each invoice, so they're leaving money on the table.

Visibility means that both shippers and carriers know the status of a payment anywhere along the process, so they don't need to pick up the phone and track down information. When shippers and carriers have data they need, and the business intelligence tools to analyze it, they can make smarter decisions.

Q: How do both shippers and carriers improve working capital? Doesn't the nature of their relationship put them at odds?

A: It doesn't have to. It is true that shippers want to extend their days payable outstanding, while carriers want to get paid as quickly as possible. But that potential friction point—longer payment cycles—can be removed from the working relationship by using an automated freight payment solution with trade finance capabilities.

This allows shippers to extend their payment terms while accelerating payment to the carrier. For example, a shipper can take 30, 60, or even 90 days to pay, but the carrier can get paid as soon as the shipper approves the invoice. As a result, both parties have improved working capital.

Q: Turning over payment responsibilities to a third party requires trust. How can shippers ensure they're working with a fiscally responsible partner?

A: Shippers should apply the same care to their financial supply chain as they do to their physical supply chain. Most shippers closely monitor the safety of their physical supply chain, ensuring that their carriers are safe and financially stable.

Shippers need to pay that level of attention to their financial supply chain—especially third parties they trust to manage freight transactions. An effective financial supply chain ensures timely payments to carriers.

Ultimately, the only institution that can guarantee funds will be delivered exactly when promised, to whom promised, is a bank. Banks go beyond the basic Sarbanes-Oxley Act, and Statement on Standards for Attestation Engagements 16 Type 2 certification to meet the financial industry's rigorous regulation, audit, and compliance requirements.

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RICK ERICKSON
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The Fundamentals of Successful Value Chain Partnerships

Q: How can value chain partners cooperate to create and share efficiencies?

A: With an unprecedented global reach, access to new markets, increased regulation, and huge advances in technology, today's supply chain environment is more complex than ever. Coupled with increasing customer demands for speed, flexibility, cost efficiency, quality, and customization, it is very difficult for any single player to do it all by themselves and consistently meet customer expectations efficiently.

Thus is born the need for business partners to work together across the value chain with the intent to maximize the benefit to their customers—and, as a result, also to their own bottom line. Smart partners will do that by understanding their needs and combining, in varying degrees, their core competencies, total assets, technology, and relationships toward the mutual goals.

In all but the simplest of situations, this is not an easy endeavor, so it must be undertaken with great care. The first step is for each value chain partner to understand its own strengths and limitations. An honest assessment may not guarantee success, but a dishonest one—whether deliberate or not—will most certainly cause problems down the road and jeopardize the partnership's success.

GEORGE KONTORAVDIS, PhD
President
Fortigo

At this point, the partners must also establish a well-defined framework of incentives and rewards. It is important for each side to feel motivated to do their best for the collective success of the partnership. It is equally important that all sides are satisfied that the eventual benefits will be shared justly and equitably.

Next, the specific elements of the partnership and the associated operational processes must be set forth. It could be a simple networking arrangement in which the parties exchange information about a new market's conditions, such as demand signals, local regulations, or processes in a new logistics hub. It could involve active coordination between the partners, such as using real-time track-and-trace to provide visibility for the exact timing of handoffs in the supply chain. Or the partnership could involve ongoing cooperation, including sharing resources to move freight or monitor freight flow.

Finally, at the pinnacle of this hierarchy is what we might call *collaborative logistics*, in which the partners have joint goals, share joint responsibilities, and incur joint risks. While the most complicated form of partnership, this model can also be the most rewarding, offering the highest potential to all partners involved.

Underlying all these arrangements—and fundamental to the partnership's success—is mutual trust and open communication. These elements develop over time, but when present, the sky is the limit for success in the value chain.

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Big Data Tools Enable Predictive and Prescriptive Analytics

Q: What is different in transportation technology today compared to five years ago?

A: Two words: big data. It has become significantly less expensive in the past five years to store and analyze large amounts of data. Due to these decreased costs, companies can now afford to use data to gain additional insight into their transportation patterns.

Q: How can technology be used to mitigate rising transportation costs?

A: Big data tools must be used to reduce the overall perceived risk that carriers have with a company's freight. This can be accomplished in three ways:

1. Providing each carrier with a larger dataset of freight moves.
2. Modeling the dataset to obtain the resultant carrier mix.
3. Utilizing a Transportation Management System (TMS) to make the carrier selection.

The larger dataset will allow each carrier to have visibility to the exact freight lanes, as well as the frequency or seasonality of the volume in each lane. Modeling the dataset with the carrier's proposed rates and business operational rules allows shippers to take into account their service requirements. Today's consumers and trading partners are more sophisticated, which adds complexity to the carrier awards. A more granular lane strategy between shippers and carriers helps mitigate risks and costs for both parties. Then, by using a TMS to make the carrier selection, shippers are able to load the same business rules to achieve the predicted outcome from the modeling.

Q: Having enough supply chain talent is a problem today. How can technology help with this issue?

A: By leveraging the big data tools that are becoming more prevalent, companies can quickly spot trends that would otherwise have gone unnoticed. Many people are under the impression that big data only refers to a large amount of data. The second definition of big data is that the dataset is too difficult to process using traditional data processing applications. When it comes to supply chain operations, many large companies are still dependent on using a spreadsheet to manage a very complex global part of the business.

SHANNON VAILLANCOURT
President
RateLinx

With big data tools, shippers can move past the business intelligence side of measuring and diagnosing, and move into the predictive and prescriptive side. A big data tool will allow transportation teams to have fewer experienced supply chain staff members, because the data will be more actionable. As big data continues to evolve, the prescriptive side will become more prevalent and powerful as the data being captured will allow the system to self-correct with little to no user intervention.

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Get Real: What ROI to Expect from Your TMS Implementation

Q: Transportation management system (TMS) solution providers routinely claim their automation tools will deliver cost savings as high as 25 to 30 percent of annual transportation spend. Is this accurate?

A: Sales representatives have a tendency to oversell things in their pursuit of new clients. This is problematic for the industry because it discredits TMS solutions as a whole when users expecting 25-percent savings yield significantly less. Of course, it is theoretically possible for an organization to capture this level of savings, but only if it had no established processes, controls, or program of any kind before implementing a TMS.

In reality, most companies already have some form of transportation management processes in effect. Companies should expect a more realistic savings range of between two percent and 11 percent, according to a recent ARC Research study. This is accurate, with perhaps a bit more potential on the upside—up to 15 percent.

Q: How can transportation organizations estimate what they stand to gain by implementing a TMS solution given the relative strength or weakness of their existing program?

A: Companies interested in automating and optimizing their transportation management processes should examine their current capabilities across eight critical transportation functions. These include optimization-related processes such as optimal routing and load building, as well as execution processes such as mode selection, carrier management, procurement, collaboration, business intelligence, and others.

Resources are available to help would-be TMS users assess their existing capabilities in each of these areas, and determine what level of savings they could expect to capture by applying TMS to standardize and automate these functions. Using figures provided by credible third-party experts, industry analysts, and others, they can arrive at a realistic set of expectations based not on sales rep promises, but on empirical evidence.

Q: What is the average return on investment for the typical TMS user?

A: Frame this question in terms of how long it takes for a TMS to pay for itself. TMS solutions generally produce enough savings—from both freight and labor costs—to cover implementation expenses and monthly program fees for the term of the contract within the first three to six months – and often even sooner.

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President
UltraShipTMS

Avoiding Pitfalls to TMS Implementation

Q: What can go wrong when launching a transportation management system (TMS)?

A: Implementing a TMS is a proven way to reduce cost and gain control of your organization's transportation expenses. Yet many companies implement systems only to fall short of the return on investment (ROI) they expected.

Sometimes the problem stems from failure to understand internal stakeholder requirements. Implementations often take longer than necessary because an internal stakeholder identifies new requirements near the time the TMS goes live—sometimes even after. This causes delays due to re-work, or worse yet, reduces the system's effectiveness, which kills the project's ROI. It helps to enlist a trusted partner experienced in TMS implementations, who knows where to look for holes or gaps in understanding, and has a structured framework and battle-tested process.

Another obstacle to successful TMS implementation is failing to invest in training and building expertise. Many organizations send everyone through initial training—sometimes several weeks before the TMS goes live—then expect their employees to remember all the functions and capabilities they learned in a classroom setting, outside the context of their jobs. Working with an external partner that has the benefit of an experienced user group can help ease the system's learning curve.

A third common hurdle in TMS implementation is a lack of IT resources. There's a lot of work to be done in configuring the TMS, as well as integrating the solution with internal ERP and other supply chain execution systems such as a warehouse management system. Internal IT personnel are often in short supply, and they may lack TMS experience and training. It's risky to have just one individual within an IT department who is the TMS guru, but often that is all IT budgets can afford.

Q: What external connections are necessary to provide visibility and other TMS benefits?

A: A primary advantage of a TMS is visibility across your entire operation. That also involves significant IT resources, however, to establish the electronic connectivity with various carriers and/or service providers. Using a TMS provider with a pre-established network of connected carriers can help mitigate this issue, and companies can realize the benefits of supply chain visibility much more quickly.

Q: It is sometimes difficult to secure the human capital required. Are there other options?

A: The benefits gained from a TMS are often a function of the amount of investment put into its implementation. The cost of the system is important, but taking the time to fully understand current processes will ensure the evolved processes effectively deliver on the promise of the technology.

Just as important is developing and maintaining system expertise, within both the IT and user communities. What good is it to spend millions on a high-tech fighter jet if the pilots and maintenance personnel are short-staffed and aren't fully trained to support it? Don't get stuck with your TMS getting grounded—spend the time and effort making your TMS implementation successful. If you can't develop the expertise internally, it's often best to find a partner who already has the capabilities, and can show you the way to a solid ROI.

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Untangling the Complications of Free Trade Agreements

Q: Why should companies consider trade agreements when looking to find the best sourcing option?

A: Companies need to factor into their sourcing decisions the opportunities provided by free trade agreements if they are to truly reduce lead times and take advantage of cost savings available throughout their supply chain. By incorporating trade agreements into their sourcing strategy, companies are able to analyze the savings opportunities that exist when sourcing from countries both local and afar, and determine where preferential duty rates may impact the traditional landed cost of their purchased goods by delivering better tariff outcomes.

Companies that can effectively integrate trade agreements in this way will gain a competitive edge in the marketplace; however, given the dynamic nature of trade and with new agreements signed every other day, for most this is easier said than done.

JAMES MEARES
Director of Asia Pacific Operations
Integration Point

Q: Why are companies in Asia Pacific foregoing the opportunities created by free trade?

A: The proliferation of free trade agreements over the past decade has contributed to an increased concentration of trade within the Asia-Pacific region, but has also resulted in a myriad of overlapping agreements that lack both consistency of application and requirements. This overlap—or "noodle bowl effect" as it is sometimes referred to in Asia Pacific—has generated a whole new complexity that makes it difficult for companies to take advantage of free trade agreements.

As each agreement comes into force, there is an exponential increase in the time required to source all the relevant information. This administrative burden—coupled with the knowledge required to interpret the rules of origin—often proves beyond the capacity of an organization to manage. For this reason, many companies simply choose not to work with trade agreements. This decision is having a ripple effect throughout the supply chain.

Q: How can companies manage regulatory information and supply chain risks along with incorporating trade agreements into the mix?

A: Successful companies need to react quickly in determining the benefits and implications surrounding different sourcing, manufacturing, and distribution options. Organizations are increasingly focused on "big data" because they realize having the ability to synthesize volumes of data can help them understand patterns.

The best way to leverage both this internal and external knowledge is to use a single platform to see where internal patterns meet external opportunities. Being able to determine the impact of supply chain modifications automatically allows organizations to react more efficiently, therefore developing more agile supply chains.

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Keys to Developing Strong Supply Chain Partnerships

Q: How can value chain partners collaborate to enhance performance and efficiencies?

A: Collaboration among supply chain partners can improve supply chain performance, create new capabilities, and increase efficiencies. Meeting to review performance objectives helps build stronger partnerships based on definable measurements and greater transparency, and encourages more effective supply chain practices.

Part of this process is reviewing current models to determine if there are more efficient ways of operating.

TOM SPROAT

Senior Vice President, Customer Service
Maersk Line

For example, consider the fundamental, costly challenge of equipment imbalance in the United States. This imbalance results in considerable time and resources. When the equipment needs of exporters can be matched with importer empties, a more efficient, sustainable result is possible. Match-back opportunities can be accomplished through improved communication and collaboration.

Achieving success as value chain partners depends on clear, accurate day-to-day communication. One area of container shipping that can have a big impact on the carrier-shipper partnership is the accuracy and timeliness of the core fundamentals, such as booking turn-times, arrival notices, and invoicing. Timely communication about these processes through transparent measurements and review provides a clear picture of what the carrier is delivering. It is an opportunity for the carrier to improve and simplify transactional processes for greater data accuracy, efficiency, and response. Shippers benefit from increased productivity, supply chain performance, and a stronger value chain partnership.

Q: What's the benefit of real-time carrier-shipper communication?

A: Global shipping is burdened by complexity and risk; especially as today's global supply chains become longer and more intricate. Factors impacting the flow of containerized cargo include weather, natural disasters, port delays, and sudden increases in demand. These events can threaten the continuity of business by knocking supply chains off their planned course.

To address this issue, carriers must deliver consistent, timely supply chain information to ensure shippers have the information they need to keep their customers and internal staff informed. This real-time communication enables businesses to proactively manage supply chain disruptions as they occur, rather than reacting after a disruption happens. This helps ensure the continuity of their business so they can successfully deliver on the promises they make to their customers.

Q: How can companies foster a mutually beneficial carrier-shipper business relationship?

A: While carriers struggle to control costs and optimize their networks, shippers call for greater reliability and responsiveness. By working together to establish constructive, transparent relationships, the two parties can create a winning partnership that benefits each of them. Our Customer Charter enables open dialogue around fundamental performance metrics. This allows each party to achieve its goals, and the partners can develop relevant supply chain solutions that add new value and efficiency.

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THOUGHT LEADERS

Efficient and Compliant Hazmat Shipping: Today You Can Have Both

Q: What are the common hazmat violations, and what are the consequences for shippers and carriers?

A: In the United States, both the Department of Transportation (DOT) and the Federal Aviation Administration (FAA) regulate hazardous material (or dangerous goods) transportation. Penalties can range from a few thousand dollars to more than one million dollars, and repeat violations tend to cause penalties to escalate dramatically. The most common reasons shippers incur penalties when shipping hazardous materials include:

- Failure to declare hazmat items when shipping
- Failure to properly train employees
- Mislabeled packaging
- Mistakes on hazmat shipping papers
- Failure to use UN specification packaging

Q: How has technology evolved to manage hazmat compliance risks?

A: For many companies, hazardous material shipping is still a very manual process. To be compliant, the shipper has to understand not only the intrinsic properties of a particular chemical, for example, and how to classify it, but also the quantity limitations, packing instructions, special provisions, carrier variations, and state variations, if shipping internationally. This often involves consulting five or more different sections of regulations to determine all the requirements that apply.

Many technologies available today can ease this burden, including:

- Electronic versions of the regulations that allow easy navigation within and between regulations.
- Automated validation software that checks shipping paper content against the regulations to flag compliance issues before a shipment is completed.
- Classification wizards that allow for easy classification of hazmat products by guiding users through a series of basic questions.
- Smart labels that use bar codes linked to software to confirm that the labels on the package match those that are required, based on shipping documents.

Q: Can I maintain the highest level of compliance without sacrificing shipping efficiencies?

A: Yes. If you follow certain guidelines, you can ensure that strong compliance standards go hand-in-hand with efficient shipping operations:

- **Hazmat data strategy.** By clearly defining the process and responsibility for classifying and storing dangerous goods data, you can speed up shipment processing by always having the right information when a shipment needs to go out.
- **Integration.** If you are using specialized software for processing hazmat shipments, make sure it can easily integrate into other systems such as your enterprise resource planning solution or manifest system.
- **Carrier-recognized.** Make sure any hazmat software solution is recognized by your primary carriers. For example, FedEx and UPS require use of pre-approved software for hazmat shipping.
- **Tech support.** Given the complexity of the regulations, it is critical that any technology solutions you are using to process hazmat shipments have robust tech support so issues can be resolved quickly without delaying shipments.

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