

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.

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Advantages of Waveless Order Fulfillment

Q: What is waveless order fulfillment?

A: It is a software-driven order fulfillment processing methodology that continuously pulls orders into a fulfillment operation based on the availability of the resources, people, and inventory needed to fulfill orders.

Q: How does waveless order fulfillment differ from wave processing?

A: In traditional wave processing, a warehouse management system (WMS) “pushes” waves of orders into a fulfillment operation based on predetermined criteria that are independent of the actual conditions in the facility. This causes the warehouse to scramble to accommodate the volume of orders at the front end of the wave, while it underutilizes resources at the tail end of the wave. Productivity in wave processing subsequently emulates a sine wave, with peaks during the initial release, and valleys as productivity slows while awaiting the completion of a few unfulfilled orders, before the transition to the next wave can be made.

In waveless operations, a warehouse execution system (WES) continuously “pulls” orders from the available pool of orders based on dynamically changing warehouse conditions as well as algorithmically evaluated opportunities. This enables the warehouse to avoid the valleys in productivity associated with wave processing,

while consistently maximizing productivity by assigning orders on a real-time basis as resources and fulfillment opportunities become available.

Q: What are the benefits of waveless fulfillment?

A: Waveless fulfillment increases throughput, while diminishing labor and equipment requirements. Operations running waveless use fewer people, require less material handling equipment, and turn orders over faster and more predictably.

Q: Can my WMS or WCS provide the benefits of waveless fulfillment?

A: Only a select few WES or WMS/WCS hybrid systems are capable of waveless processing. A traditional WMS cannot operate wavelessly because it lacks automated equipment controls expertise, real-time dynamic processing capabilities, and visibility into real-time conditions. WMS platforms also tend to be one-size-fits-all applications that carry unnecessary functionality that slows processing. As a result, a WMS lacks the focused, process-driven functions, targeted logic, and sophisticated database design necessary for waveless execution. Traditional WCS applications can tie together multiple machine level control systems, but they typically do not have the control of inventory and labor resources needed to manage waveless operations.

Q: What is needed to implement waveless fulfillment?

A: True waveless processing requires a holistic approach to systems automation that combines purpose-driven design (derived from the data sciences of analytics, modeling, simulation, and optimization) with sophisticated warehouse execution software into one comprehensive solution capable of orchestrating all the simultaneous and parallel processing associated with waveless fulfillment. As a result, only a company with experience in, and an understanding of, waveless fulfillment can give you what you need.

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Unleash the Full Potential of Your Supply Chain



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Q: What are the compelling reasons a shipper seeks outsourced logistics support?

A: Companies are realizing the differentiated value their supply chains provide in the areas of customer retention, brand reputation and overall bottom-line performance. However, the focus and commitment to enhance supply chain programs are often viewed as a distraction from core functions. Shippers seek outsourced support to either complement or completely represent their logistics or supply chain department. By tapping this outside expertise, shippers arm themselves with the technology, talent and experience at a lower price than employed resources, which allow companies to invest and focus on their core competencies.

Q: Can you describe the typical customer that employs an outsourced logistics model?

A: Often times the shipper is struggling through a transformative challenge that has led them down the path of questioning their long-term strategy. Examples include:

- A merger, acquisition or divestiture in which a shipper requires assistance to understand and execute their new network
- An organization going through a period of rapid growth and needs help building scalability and resiliency within its supply chain
- Some organizations seek help after a significant loss of revenue to focus on network optimization and cost savings
- An organization evolving from a decentralized decision-making program to a more centralized

program to improve procurement, supplier management and risk mitigation

- A shipper committed to maintaining its own supply chain department but desires assistance with technology or key value-added services

Regardless of the compelling reason, there are numerous models available to shippers. Technology advancements have allowed greater visibility, planning and optimization. It is important for shippers to outline long-term objectives and consult with experts within the profession.

Q: What value can an outsourced model provide interested shippers?

A: Aside from providing shippers the freedom to focus on their core competencies, an outsourced model such as a 4PL program or Lead Logistics Provider (LLP) will improve tactical execution processes, deliver network savings (measured as supply chain return on investment) and mitigate risk.

The right provider will leverage an industry leading transportation management system (TMS) and specialized technology to increase visibility of supplier performance and network costs. The business intelligence enables proactive planning and continuous improvement.

A key competency is carrier qualification, procurement and management. With capacity volatility and uncertainty of pending regulatory changes, it is critical that shippers leverage expertise in capacity generation, qualification with an eye on safety and financial viability, and a proven management program. This work strengthens routing guide options and improves performance while reducing costs and risks.

Aside from managing the supply chain operation, strategic programs deliver savings. Proven experts in this area will leverage the shippers' key stakeholders and the supplier community to enable change management, which can be difficult at times depending on the individual situation. Your outsource partner should be experienced with relevant examples of how they have helped other companies unleash the potential of supply chains.

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An Incremental Approach to TMS Acquisition

Q: If savings from a TMS deployment can be significant, what are the benefits of an incremental approach to acquisition?

A: It's true, studies show that savings from a TMS deployment can exceed eight percent of annual freight spend in some verticals. These savings are derived from visibility, analytics, optimization, process improvement and enforcement. In pure numbers, a company spending \$150 million annually on freight can spend roughly \$1 million and up to \$2.5 million on a TMS.

In order to achieve these savings, either the TMS must be adapted to the company's processes or the company's processes must be adapted to the TMS workflow. As a result of this adaptive period, promised savings are postponed while expenses are quickened. The larger the system, the longer the implementation, the higher the costs, the longer the return.

With Incremental TMS Acquisition, companies can deploy a series of solutions in consecutive fashion while propelling a shorter run up to ROI. This serves to accelerate savings, decelerate expenditures, and reduce the impact on existing, macro-operations. It also provides a greater degree of flexibility; changing a plan is much easier than changing installed systems and processes. This incremental approach focuses attention on solving experiential issues, whereas deploying all-at-once TMS solutions requires a longer outlook relying upon forecasts and predictions.

Q: Are you saying, "Why buy an aircraft carrier when you need a patrol ship?"

A: Yes and no. Serial deployment of TMS micro-solutions does not preclude the ultimate deployment and full implementation of total TMS functionality. However, doing so achieves a faster run up to ROI, defers some expenditures and is less intrusive to day-to-day operations. It enables companies who need an aircraft carrier to begin reaping the low-hanging benefits before its long and costly completion.

Alternatively, a company's operations and processes might not present a need for total TMS functionality. In this instance, it would make sense to buy only the

minimum to meet the requirement. In addition, by reaping the easier, achievable benefits early on, subsequent ROI evaluations can take place on remaining, unemployed micro-solutions to determine cost/benefit of adding such functionality. After all, why waste time and money attempting to implement world-class when excellence will suffice?

Q: Should I look to source solutions from multiple suppliers or should I seek out a provider that offers end-to-end functionality in a building blocks approach?

A: Sourcing TMS micro-solutions from a provider that offers end-to-end TMS functionality is the optimal approach (assuming that the solutions have the ability to be seamlessly integrated with one another). This tactic ensures that each TMS micro-solution works well with one another and that you are engaging with a partner that has an intimate knowledge of your requirements and macro-TMS vision.

On the other hand, taking an incremental approach to TMS acquisition allows companies to source the most appropriate solution to meet their specific requirements. TMS solutions cover a wide breadth of operations and functionality. If a company's issues are with segments that can be carved out and isolated, bundling solutions from multiple suppliers may be an appropriate method.

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Best Practices for Effective Carrier Management

Q: Can you share some best practices for effective carrier management?

A: There are three that I always recommend. First, seek a TMS platform supporting the use of carriers of all sizes – small to mid-sized to large. It should support EDI and other contemporary technologies utilized by the larger carriers, but also deliver things like a mobile app and online portal for small carriers. There is value unique to carriers of all sizes, and a shipping organization is strengthened by its ability to harness the unique benefits of all carriers.

Next, focus on solutions providing exceptional performance measurement capabilities. It's the cornerstone of the strong carrier relationships shippers need to succeed. The best solutions provide clear, regularly reported metrics not just to the shipper, but also to the carriers themselves. When given access to their own performance metrics, carriers may correct problems before performance challenges become an issue with their shipper/partners.

I also suggest shippers engage a TMS solution flexible enough to offer this level of collaborative performance monitoring across all modes—not just truckload, LTL and intermodal, but also consolidators and parcel shippers. Many shippers don't realize that these other modes have grown capable of integrating with TMS and other logistics IT solutions, and can send EDI or flat files to facilitate status updates from all modes.

Q: What are some key carrier management metrics shippers should examine to support the good relationships you described?

A: Metrics surrounding carrier performance are essential because they ensure you're putting the best players in the most appropriate positions, consistently across your transportation network. I suggest setting KPIs for metrics such as:

- On-time performance
- Check call compliance

- Accuracy of data entry
- Timeliness of status updates

Monitoring and analyzing these few critical metrics can really strengthen a shipper's position when it comes to periodic rate negotiations with carriers.

Q: What carrier management functionality should shippers seek when selecting a TMS?

A: It's all about collaborative capability when it comes to harnessing carrier performance metrics as a productivity/efficiency-boosting tool. The leading TMS solutions are categorically cloud-based because of the cloud's proven collaborative capacity. Moreover, top cloud TMS tools are designed to automatically generate and distribute performance scorecards to all relevant parties—carriers and shippers alike. Gone are the days of manually compiling carrier scorecards. They also support exception management, issuing exception reports automatically whenever a carrier is out of compliance with business rules.



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