

Multi-Modal Flexibility Within Your Logistics Network:

Future-Proofing Operations Amidst Supply Chain Volatility

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Introduction

The idea of building resilience within supply chain operations is a discussion that has been around for a while — albeit not prioritized by company management. While the chaos created by the pandemic evaporated any doubts about the vitality of supply chain health to run a profitable business, it was not always that way. Boardroom discussions seldom centered around supply chain operations, with expenses in the segment relegated as an inevitable cost center.

Today, companies have realized the importance of ensuring their supply chains run lean and optimized, even while packing a sense of redundancy that keeps their operations up, irrespective of market volatility. The timing could not have been better — since the pandemic, transport networks have witnessed a myriad of challenges never seen before, both in scale and intensity.

Historical spikes in freight rates, unprecedented capacity crunch, long-winding vessel queues at major ports, and dropping service levels meant shippers struggled with inventory availability and ensuring consistency across their operations. This allowed companies to think long and hard about their approach to transport security, eventually leading them to multi-modal flexibility as a strategy worth pursuing.

Multi-modal flexibility is the idea of adding redundancy in transport networks, where supply chain managers explore different options to ship freight, rather than entirely depending on one particular mode of transport. This could range from less-than-truckload to full truckload, opting for the spot market versus pursuing contracts, allocating a portion of volumes to air freight versus maritime, and partnering with several 3PLs and transport companies to reduce uncertainty while shipping freight.

However, to approach resilience, companies must start by revamping old workflows and archaic technology in prevalent use. The excessive fragmentation seen within the transport industry hardly helps in this exercise, as the millions of small service providers in the market lack foresight and direction in building flexibility within operations.

In this whitepaper, we look to shed light on the importance of multi-modal flexibility while strategizing transport options, which inevitably injects resilience into overall operations.



Incompatible and outdated network planning systems are choking efficiency

Within the supply chain, it is not uncommon to see company back-offices running Microsoft Excel to keep track of loads and bookings, using email, fax, and phone calls to connect with service providers. While these tools can help manage straightforward transactions, the complexities brought on by present-day logistics tend to overwhelm users. This puts a lot of constraints on capabilities, aside from wasting time and human resources that could be better utilized elsewhere.

Larger companies struggle with too many ERP systems calibrated differently, with disparate architecture and distinct ways to measure data. The challenge is that crucial decisions need to be made using archaic technology that cannot talk to each other. Network design and scenario planning can only get so far, as data cannot be implicitly trusted and must be taken with a grain of salt. While robust technology like machine learning is available, such solutions are only as good as the data input the system. A structured, consistent methodology to measure data is crucial.

"There's no 'one' right network design, and not all right network designs share similar attributes," said David Salisbury, the director of logistics at [Henkel Laundry](#). "Planning for networks in a changing, dynamic market like today has driven a lot of opinion-based network design."

Companies often work with external service providers to optimize their networks. And when they consult with different providers, it is usual to see them come up with different perspectives — all of which hold merit — for achieving similar goals from the overall network standpoint. Salisbury pointed out that network design today is quite complex, is not well understood by the customer, and is not well facilitated by the ones doing the network design.

"I see this as two pieces. One is the tool in the process itself, which needs to accommodate changing markets, can add new variables, and produce consistent results. The second part is the need for customers to understand what they are looking for and recognize when they find it," said Salisbury.

Customers are mystified at the absence of an 'expected level' of visibility into their freight movement. With e-commerce in the picture, people have grown accustomed to spectacular visibility in the last-mile movement of their products ordered online. These expectations have also spilled over into B2B transactions, with network planners burdened with the added responsibility of providing visibility into operations, aside from streamlining workflows and bolstering resilience.

"As a shipper, it is a challenging environment as it's hard to capture all the timestamps, which impedes our ability to forecast delays," said George Chamaa, the executive director of transportation for Americas at [Estee Lauder](#). "Bottlenecks as seen in the US West Coast or the East Coast since the pandemic made it difficult to understand where our products were or their condition. While there are several visibility providers in the market, visibility isn't as crisp as it needs to be."

The impact of changing freight landscape on contract negotiation

The pandemic witnessed shippers having had a hard time navigating a tight market coupled with spiking freight costs. Companies running lean operations were especially exposed to transport disruption, as delayed inventories meant their business went to a standstill. At the height of the pandemic, with the West Coast ports in disarray most of 2021, several retail giants like Home Depot resorted to chartering their own vessels to bring in freight.

This naturally had an impact on how freight contracts were negotiated. Having dealt with debilitatingly low margins for a better part of the last decade, transport providers like trucking firms and container liners seized their moment, going back on the RFPs signed pre-pandemic. The uncertainty fostered by multiple 'waves' of the pandemic meant the stakeholders — the transport service provider and the shipper — had no means of determining when the situation would permanently improve, and thus, resorted to signing shorter contracts.

"In the maritime market, we are used to negotiating multi-year contracts, but not anymore. With the market being volatile, we are now negotiating annual contracts and don't want to lock in prices for multiple years. On the air freight side, we negotiate a contract every six months," said Chamaa.



For Kim Segel, director of global transportation at [Zebra Technologies](#), the post-pandemic years have been defined by a state of perpetual freight negotiation. “Depending on what’s happening in the market, we have gone anywhere from having weekly revisions of our pricing during the peak season to as far as quarterly during the relatively calmer months,” she said.

While shippers will have more scope to optimize for capacity by negotiating contracts at shorter intervals, this can only be done if they can forecast their volumes with reasonable accuracy. “This could be difficult, considering businesses are much more agile as consumer trends evolve quicker today. This makes it hard to forecast volume, and so it’s about optimizing the volume split between what goes into the contract and what goes to the spot,” said Chamaa.

Within the trucking market, companies are taking a step back and analyzing the volumes that need to go into RFPs, basing decisions strictly on the trade lanes they will need to be hauled on. With roughly 80% of all loads moving over 20% of the designated trade lanes, companies find it is cheaper to run RFPs on 20% of the high-frequency trade lanes and push the remaining 20% of loads onto the spot market.

“Ideally, we are looking at putting 80% of our loads on contracts. In 2021, we had 60% on contract and 40% on the spot, which drove up our logistics costs,” contended Chamaa. “But Estee Lauder’s nature of business would mean sudden spikes in consumer demand for a certain product, forcing us to push freight on the spot market. While this comes at a premium, it does not supersede our need to stay flexible.”

Aside from splitting volumes across the spot and contract market, companies also look to work with multiple 3PL partners and asset-based service providers to minimize the risk of disruption. Collaborating with several service providers will help companies do freight rate benchmarking, providing them a footing to lean on while negotiating on the spot market and working on RFPs.

Private, designated fleets are also an option, especially for large shippers and manufacturers that work around consistently high volumes throughout the year. Private fleets work well when the for-hire trucking market is tight and can save the firm considerable money when freight rates are high. However, holding onto a private fleet could be counter-productive when the market cools down, considering rates are cheaper in the open market and equipment maintenance costs money.

In the end, the level of diversification pursued by companies today does reflect the concern management has with facing the possibility of not finding capacity when they most want it. “When faced with an extremely tight market, shippers are willing to give up accountability and service quality to pursue carrier relationships — all for that elusive capacity. This puts them at a disadvantage while negotiating, as they are afraid carriers hold all the cards,” said Salisbury.

With RFPs not bound by enforceable contracts, carriers’ accountability can go for a toss, especially in a tight market. While carriers do agree to certain standards and promise capacity at a specific rate, their service levels can noticeably slack when the market slides in their favor. This makes it hard for companies to get the right result out of a contract — be it capacity, costs, or the bid lanes. Ultimately, it is not just about diversification for shippers, it’s about how well their relationships are built. If a company has an open and honest discussion and negotiates with its carrier and 3PL partners in a way that it becomes their shipper of choice, market volatility would likely not matter in terms of securing capacity.

Leveraging multi-modal flexibility during transport planning

While multi-modal flexibility certainly helps keep transport operations resilient, companies need a few upstream prerequisites to ensure they move on schedule. For one, it is crucial for shippers to work with their vendors and have the correct commercial agreements in place, as that will help ensure their freight is on time and at the right place for being hauled.

To strategize freight movement across multiple modes, shippers must time their freight and work with transport partners to ensure seamless transfer at the origin and destination. "Whether it's using ships, flying cargo out via air, or having a mix between road and railroad, it's about time, costs, and flexibility. Multi-modal transport becomes increasingly important when moving freight across various geographies, as it helps bridge the gap in regions lacking consistent capacity availability across specific modes," said Salisbury.

When time is not of the essence — especially in businesses that can forecast freight volumes well in advance — companies can increasingly opt to factor in the sustainability of their transport operations. For hardware giant HP, intermodal flexibility has helped it benefit from a reduced carbon footprint. "If you plan a proper intermodal network instead of relying completely on a single mode of transport like trucking, you can end up reducing roughly 60% of the carbon footprint," said David Thomas, senior manager of global supply chain and network design at [HP](#).

However, there is also the need to keep an eye on logistics backlogs that could delay freight movement, as seen in the intermodal rail bottlenecks across inland intermodal ports like Chicago and Kansas City at the height of the pandemic. "It is about balancing the cost, service, and sustainability, while ensuring freight reaches us on schedule," pointed out Thomas. "If the distance to be moved is within a 1,000-mile radius, it goes on truckload, and if the shipments are not large enough, it goes on LTL. It's about playing between different modes while keeping the transit time in mind."

Nonetheless, the more modes involved, the harder it could get to gain visibility, considering data needs to be streamlined across several stakeholders in the value chain. Companies need to walk the tightrope, looking to balance operational flexibility with visibility.

"Sometimes, having those different layers of flexibility while affording visibility does involve capital investment. Customers' expectations are changing, and real-time visibility into their freight movement is considered a must-have than a nice-to-have," said Adam Leclerc, senior director of global supply chain at [CHS Inc.](#) "They want information faster to react better to volatility. This pushed us to invest in our facilities to perform better, to conform to expectations, and become a supplier of choice."

Visibility is necessary as, aside from helping companies stay updated on their freight status, it also allows management to act on exceptions as and when they happen. "At CHS, we manage three million individual transport movements across the globe annually, across all modes of transport. So there's always a critical shock somewhere in the supply chain. Visibility helps me identify the issue and work on cost-mitigation measures," said Leclerc.

For instance, consider a customer who requires freight to be shipped in a rail car, as it is their regular means of transport operation. If there is a terrible snowstorm that results in the railcar stuck under two feet of snow, the company will have to take a call to either inform the customer and apologize for the delay, or look to convert



the railcar into four truckloads and keep the freight moving on schedule. Either way, visibility is paramount.

However, when several modes of transport are involved in a linehaul, achieving end-to-end transport visibility becomes quite challenging. Leclerc contended there needs to be a system like blockchain technology that could connect all stakeholders across the value chain, but then again, it is not viable in the short term.

But if companies really wish to build comprehensive visibility, it starts with getting all their transport service providers on-boarded to a single platform. “You’ll have to build APIs that create integrations between your system and theirs. That’s an exhaustive process that consumes time and money. Look to prioritize visibility, but work on means that return the most value. It’s important to start somewhere because you wouldn’t be able to do it all at once,” said Leclerc.

Since building visibility in-house is an exhaustive process, companies also work with third-party visibility tools aside from relying on updates from freight forwarding partners. “Visibility tools are helpful, especially when we move into multi-modal. This is because we have visibility into freight jumping from one mode to another — and even when they are in a yard, awaiting transit. For instance, we’ve always had a visibility black hole as our freight goes through customs. But now, visibility tools give us access to what documents are handed over, when the freight gets released, and we can even see the trend and average wait times while held at customs,” said Segel.

Such a window into freight movement will mean companies can forecast delays better and dynamically plan their downstream operations to improve operational efficiency. Then again, such an exercise is usually confined to large shippers with a sizable budget for improving visibility.

“Small shippers rely heavily on their brokers and carriers to capture, interpret, and make decisions based on their own data. Large shippers have teams that spend days and weeks digging through their data. This is where it becomes crucial to understand how it ties to daily operations across functionalities, and if it suffices the real business needs — commercial and operational,” said Salisbury.

The prerequisites to building out a multi-modal strategy

“Since the pandemic, nearly every customer we’ve spoken to at Apex has shown strong inclination to adopt multi-modal flexibility into operations,” said Michael Piza, senior vice president of corporate business development at Apex Logistics. “Flexibility is key, be it with freight modes, type of contracts, or service providers. Every metric has something different to offer, and companies are waking up to the need for flexibility to stay resilient.”

But before looking at different options to ship freight, companies must organize and do a priority process that helps determine the key lanes that move the most volumes and their associated costs. “Multimodal has an option for everyone that thinks outside the box, as several options are not going to be traditional and are not obvious to the shipper,” pointed out Segel.

“Companies must truly understand where their risks lie when building their networks for multi-modal flexibility. For instance, I wouldn’t try out a brand-new service that needs vetting. There’s a lot of room in playing around with the sea and air options, but people did not take them seriously pre-pandemic as they did not see the delays they saw in the once-reliable ocean freight movement.”

For Zebra Technologies, the pandemic flipped their transport modalities. While 80% of the company’s volumes moved via the ocean and the remaining 20% via air, the extraordinary bottlenecks witnessed in the maritime market during the pandemic pushed the company to move 80% via air and 20% via the ocean. While this ballooned their freight expenses, Segel explained it was a rational strategy as delays would have far wider repercussions on the business.

“The idea is to balance your pocketbook while ensuring your business isn’t killed due to elongated end-to-end lead times. This goes beyond just observing lanes — it’s about seeing the big picture. It’s to plot out how some



routing changes can change the way you import and export. It's about accounting for all the pieces," said Segel.

As with Zebra, companies saw the pandemic impact their usual transport planning, with many opting to move their freight via air to save time and ensure smoother operations. In that regard, working with partners who command a strong air freight network and offer strategic solutions is critical, contended Piza.

"As the fastest growing logistics provider with close airline partnerships, Apex utilizes flexibility of mixed commercial and blocked space combined with dedicated charters, creating a more stable commitment to capacity and freight rates. Our consistent service resulted in less disruptions for our customers."

Having an honest discussion with the shortlisted 3PL partners during the planning process is crucial to understand if they measure up to the metrics the company prioritizes. "For Henkel, our top three metrics are capacity, costs, and quality of service. The quality of service covers on-time pickup and delivery, and appointment compliance," said Salisbury.

He contended that the idea of the 'on-time, in-full' (OTIF) concept introduced by Walmart was well-meant, but could not work as it combined two metrics that were not related. The idea is to prioritize both on-time delivery and capacity availability, but to scale them separately and pick combinations that make sense in the working environment.

With a suitable vetting procedure, companies can settle down to build quality relationships with their carrier and 3PL partners. "Building goodwill is wildly important. Everything in logistics is about people. It's about interactions. The better the relationships, the better we can rely on each other," said Salisbury. "A strong relationship with a weaker 3PL is better than a weak relationship with a stronger 3PL. The former can be a key enabler to your business success by overcoming obstacles."

In a professional relationship, reliability and trust hold greater value than a company's attempt to impose a particular outcome. "During the pandemic, we were careful to protect our existing customers and ensure their needs were met. These were the customers that committed to having a collaborative relationship with Apex," said Piza. "Commitment is a two-way street. By engaging with good 3PL partners, shippers can achieve their desired results."

It also lets supply chain managers plan their volumes and transport strategy in advance, considering there is credibility in each other's capabilities. "Without such relationships, transport operations become transactional. Lack of a connection leads companies to keep rotating their carriers and service providers as they can't find the right one. They lose a lot of time and money, causing frustration and impacting their bottom line," said Salisbury.

This aside, genuine relationships would mean service providers are open and honest about freight exceptions and if there is a problem with freight — like damages or theft. While this is not an ideal outcome, timely warnings would help companies work on contingency plans to mitigate the delays.

Preparing for 'what-if' scenarios is vital too. Company management needs to think long and hard about situations that could turn into bottlenecks in the future, and work on measures that can help circumvent them. The idea of multi-modal flexibility is not isolated to the transportation segment. Supply chain stakeholders across the end-to-end value chain expect flexible options to cover their bases today.

"Our customers are adjusting to the new normal. Customers that traditionally stuck to truck freight are now expanding to rail freight, and vice versa. Companies are choosing service providers with widespread capabilities and fewer constraints with shipping across modes. Building a flexible transport strategy is capital intensive, but it will set the company up for success in the long run," said Leclerc.

Multi-modal flexibility and its impact on reducing the carbon footprint

There is no debate about the need for sustainability within transport operations, as is evident from companies setting lofty long-term carbon emission goals and the heavy strategizing that goes into inching towards those objectives. While this can be done by using fewer carbon-intensive modes of transport, companies can also optimize freight movement by increasing capacity utilization.

“Reducing air freight and replacing it with ocean freight is a big initiative that takes meticulous planning. In cases where lead times need to be short, transitioning modes could be nearly impossible. However, increasing shipment utilization is more immediate. This is as simple as loading up freight in two containers rather than three containers that go three-quarters full,” said Chamaa.

“Can you optimize what goes into a container? What about reducing the size of the packaging? How about using recyclable and reusable packaging to save on the bottom line and stay sustainable? Companies can explore plenty of initiatives and leverage them according to their operations. Sourcing strategy also impacts transport emissions, as sourcing closer home will naturally reduce the miles freight needs to travel.”

“Packaging efficiency matters considerably. The packaging world has gotten sophisticated in recent years, as maximizing space utilization made a deep impact in cutting emissions while reducing freight bills. At Apex, we work with a third-party on the packaging side,” mentioned Piza. “That aside, we have a team in-house that works with our customers to reduce their carbon footprint through GHG emission reporting. Customer interactions have made it clear this is top priority.”



reporting within the industry. There is a growing demand for emissions accountability from the consumer base, while governments continue to enact strict legislation aimed at reducing the overall carbon footprint of logistics operations.

"Companies need to look beyond how beneficial their partnerships are for the bottom line and understand the impact their operations have on the environment. For instance, in the last-mile and short-haul segment, companies can stress on their service providers to adopt electric vehicles or opt for alternative fuels — anything that helps build more sustainable operations. It's a key factor when we look for a service provider at HP," said Thomas.

Cultivating good relationships with service providers can help companies reach out and push their partners to run more sustainable operations. With greater visibility into the end-to-end supply chain, stakeholders can hold each other accountable for emissions, helping the value chain at large.

Visibility into inter-tier operations will mean companies can finally measure their Scope 3 emissions better. Scope 3 emissions are the indirect emissions that result from activities of a specific company (a shipper in this context), which is not owned or controlled by the organization — in simple words, the carbon footprint of a company's downstream stakeholders.

Pursuing multi-modal flexibility has multiple benefits for companies looking to make their operations resilient. Flexibility in transport options allows companies to plan well ahead with conviction, helping them optimize volumes better. Fostering better relationships with their partners creates trust and goodwill, reflecting calmer operations in a volatile market. Companies can manage inventories better, considering there would not be the need to overstock due to the pressure of finding capacity in a tight market. In essence, multi-modal flexibility is no longer a nice-to-have but a must-have.



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About Apex Logistics

Established in 2001, Apex Logistics International has become a top dependable solution for those seeking expertise in freight forwarding, contract logistics, customs brokerage, transportation management, warehousing, and distribution.

Apex Logistics' proprietary operating system manages transportation networks in all modes (air, ocean, over the road) and global geographic areas. Key business functions such as advanced order management, warehouse management, and meeting US Customs requirements are driven by automated workflows, exception management, and complex supply chain data integrated in the cloud.

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