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SUPPLY CHAIN
TALENT SEARCH

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info snacks

BITE SIZED SUPPLY CHAIN/LOGISTICS INFORMATION

“It’s getting supply and demand right with a big dollop of imagination.”

Jonathan Byrnes, MIT, on the supply chain success of build-a-bowl restaurants

(See Supply Chain Super Bowl, page 46)

“We can’t afford to let mixed regulations stifle a technology that the trucking industry desperately needs.”

–Rob Kriewaldt, Director of Client Solutions, WSI, on the ATA’s proposal for an automated truck policy

(See KnowledgeBase, p. 30)

The Freight Equivalent of Speed Dating

That’s how Lawrence Catanzaro and Tony Fricchione, Kane is Able, describe shopping out transportation lanes through yearly RFPs in an effort to save money. They advocate for building long-term relationships with carriers.

(See Viewpoint, p. 34)



27%

of respondents would rather get a root canal than have personal holiday shipments come late.

–DHL Holiday Customer Survey



More than \$333 million

That’s how much shipping issues are anticipated to cost retailers during the 2017 holiday season, not including an additional \$1.5 billion in potential lost revenue from shoppers who won’t return after a poor experience.

— 2017 National Retail Federation sales projections

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ONLINE COMMENTARY



6 Strategies for Finding the Right 3PL Partner

bit.ly/Right3PLPartner

It's the time of year when shippers request bids and plan their optimal logistics strategy. Use these tips to help you through your next round of RFPs.



Leveraging Supply Chain Automation

bit.ly/LeveragingAutomation

Small to mid-sized shippers can no longer rely on manual processes to meet customers' growing expectations. By leveraging supply chain automation, shippers can meet customer demands while staying competitive.



A Resurgence in Trucking

Investments bit.ly/Equipment_Financing

Equipment financing is important for companies looking to make new investments or replace older models. Here's a high-level overview of equipment financing options and their benefits.

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CHECKING IN



by Keith Biondo | **Publisher**



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CX in the Era of Supply Chain Impatience

Whether your customer is the end consumer or B2B buyer, supply chain and customer service performance expectations are converging. Providing an excellent customer experience (CX) requires super-expedited and sometimes free delivery. E-commerce customers increasingly choose to pay for same-day delivery, according to a DHL survey. Here at *Inbound Logistics*, we call that supply chain impatience and it is spreading to B2B.

Becoming a customer experience leader requires that you focus on a few strategies.

First, and most important, consider the customer service implications of your business process as far back from the demand point as possible—a demand-driven customer experience, if you will. Managing what customers consider failures becomes more costly the closer you get to the customer.

Second, view customer service as a competitive differentiator. Instill a company-wide mission of playing to win, and view great customer service as a goal to beat your competitors. This approach is especially important when dealing with new entrants in your market. Elevating the customer experience to competitive differentiator status adds importance beyond “just” pleasing the customer.

Third, recognize that even unsophisticated customers not plugged into IoT, end-to-end global visibility solutions, and real-time execution still expect you to fulfill their expectations. You have to offer all these solutions even if others don't. And transportation, logistics, and supply chain plays an increasingly pivotal role in providing this high-level customer experience.

Fourth, invest in technology but don't forget the human touch. The technology and people duopoly does cost more, but many companies are beginning to realize that focusing solely on what's hot in IT puts them at the same level as competitors who are only dazzled by the latest techno solutions. Investing in people and providing great CX gives you the edge.

Companies measuring customer experience performance report that, even though they are focusing on delivering a great customer experience, performance metrics are stagnant or even down in some cases. Why? Expectations are outstripping logistics and supply chain realities. Whether you serve e-commerce, retail, BTB, industrial, or manufacturing, recognize that there is a person at the demand point—your customer—whose expectations for superior customer service will only grow more stringent.

Now is the time to meld CX leadership into your current leading supply chain performance. ■

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Good Question...

READERS WEIGH IN

What's the difference between supply chain visibility and transparency?

Supply chain visibility is what you actually know; transparency is what you are willing to share with your partners. Don't assume a supplier or customer is deliberately obscuring information when, in fact, they don't have that information in the first place.

Amy David

*Clinical Assistant Professor of Management
Purdue University
Krannert School of Management*

It's often challenging for companies to see into their supply chains beyond the first-tier supplier; they lack transparency into their suppliers' suppliers, and so on into the third tier and below. Visibility entails line-of-sight awareness of performance through the supply chain.

Tom Derry
CEO

Institute for Supply Management

Supply chain visibility happens in a vacuum—one person viewing data on a screen. It's impersonal. Transparency, on the other hand, is interactive, connoting using information to move the supply chain forward.

Jim Lahey

*Director, Technical Operations and Corporate Systems
Kane Is Able*

Visibility provides a company with knowledge of activities across its supply chain; transparency is what and how it communicates that knowledge to customers, partners, and stakeholders.

Shay Scott, PhD

*Managing Director,
Global Supply Chain Institute
Haslam College of Business
The University of Tennessee*

The difference is from the perspective of who is using it. Visibility is important from the supplier perspective and is the same thing as transparency from the customer perspective.

Joe Walden
Lecturer,

*Supply Chain Management
University of Kansas*

Supply chain visibility lets you see a particular activity with access to information at selected nodes. Transparency means you can see through all the nodes and evaluate the entire supply chain. Visibility assists market efficiency. Transparency assists strategy fulfillment and social responsibility.

Dr. Darren Prokop

*Professor of Logistics
College of Business & Public Policy
University of Alaska Anchorage*



Visibility provides insight into data, making it available to stakeholders, while transparency implies communication and accountability, making it easy to see the actions performed. The difference is insight into the present and future (visibility) vs. openly communicating data and information, and acting on desired outcomes (transparency). The reality is you need both.

Jim Barnes
CEO, enVista

HAVE A GREAT ANSWER TO A GOOD QUESTION?

Be sure to participate next month:

What's the supply chain buzzword for 2018? Will it be all hype or actually impactful?

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JDW, New York, via Twitter



Keeping it moving with the November issue and a mid-day latte.

Amy DePaoli, Pilot Freight Services

ELD Impact

IL coverage on how the Electronic Logging Device (ELD) mandate will affect shippers' supply chain capacity (bit.ly/ELDready and bit.ly/ELD411forshippers) drew some insightful responses.

On whether shippers and receivers can help with the transition by understanding the limitations that drivers face:

The problem places are known to most people. Many just haven't felt a need to fix it.

Glenn Kuehne
Owner/Driver, Tortie Trails Trucking

This issue goes much deeper than just shippers/receivers. We'll have to wait and see how things work out a few months in.

Ernesto Hernandez Jr.
President, Global Better Solutions

On rate of enforcement:

Considering that \$250M HOS fines have already been assessed this year and that smartphone tracking qualifies under the ELD mandate, I don't think they will slow-walk enforcement as a whole. However, as usually is the case with these types of mandates, it will be location dependent.

Brian C. Pigott
Managing Director,
One Way Solutions, LLC

Worth a Listen

A recent *IL* podcast with Dave Jackson (*right*), CEO of the newly minted Knight-Swift Holdings, explores how the trucking powerhouse formed by the merger of Knight Transportation and Swift Transportation impacts trucker wages, capacity, and the supply chain. Jackson's comments drew strong reader response.

Here's one trucker's take:

I came to Swift from another trucking company because Swift provides better support for drivers than the company I came from. I train student drivers. My experience with my students is that they also need strong support.

Good support does not cost very much and it is one of the things that I see as lacking in most trucking companies. This is one area where Richard Stocking, the former CEO of Swift, excelled. I hope the new Knight-Swift will maintain that level of driver support.

Charles Butterfield

Check out the Knight-Swift podcast, along with many other interesting supply chain conversations, at: www.inboundlogistics.com/cms/podcast





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8:45 AM – 9:30 AM**

Anticipating Tomorrow's Supply Chain Challenges – Today

JUAN PEREZ
Chief Information and Engineering Officer, UPS

**Monday, April 9
9:30 AM – 10:00 AM**

Welcome to MODEX 2018
GOVERNOR NATHAN DEAL
Governor of Georgia

**Tuesday, April 10
8:45 AM – 9:45 AM**

Harnessing Our Digital Future
How the Digital Revolution is Accelerating Innovation, Driving Productivity and Irreversibly Transforming Employment and the Economy

ANDREW MCAFFEE
Co-Founder & Co-Director, Initiative on the Digital Economy

**Wednesday, April 11
8:45 AM – 9:45 AM**

2018 MHI Annual Industry Report Keynote Panel

GEORGE W. PREST
CEO, MHI

SCOTT SOPHER
Principal, Deloitte Consulting LLP

**Wednesday, April 11
1:00 PM – 2:00 PM**

Why Dirty Jobs Matter



MIKE ROWE
Founder,
mikeroweWORKS Foundation



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10 TIPS

STEP-BY-STEP SOLUTIONS



Optimizing Route Planning to Cut Costs

With consumers expecting more delivery options and the return of rising fuel prices, supply chain managers are finding ways to run leaner. For instance, ensuring transportation operations are making the most efficient use of vehicles, fuel, and drivers is a high priority. William Salter, CEO and president of Paragon Software Systems, offers these route planning tips to help keep transportation costs in check.

1 Automate route planning.

Routing and scheduling software can significantly cut costs by considering all the real-world constraints your distribution operation faces every day.

2 Link routing software to live vehicle tracking.

Linking routing software to live vehicle tracking enables you to compare planned routes against actual routes. This allows you to detect unplanned activities such as drivers taking detours or regular delays at customer sites. It also helps identify areas of slack in your planning setup that will improve productivity.

3 Model what-if scenarios.

Modeling the consequences of changing vehicle sizes, drivers' hours, delivery frequencies, and delivery locations helps you make decisions without having to invest time or money to see the results.

4 Evaluate route optimization settings.

Delivery windows, new customers, and levels of congestion usually change over time. Fine-tuning your operation as it evolves is important to make sure you keep fuel and fleet costs to a minimum.

5 Time heavy deliveries.

Vehicle weight can have a huge impact on fuel consumption levels. Since heavier loads consume more fuel, they should be dropped off first. If they can't go first, collect heavy items last so you are only paying for transporting them back to your depot.

6 Implement fuel reduction improvement strategies.

Enact fuel efficiency strategies such as eliminating empty miles and curbing driver speed.

7 Integrate backhauls into delivery schedules.

Combining collections and deliveries in the same vehicle can improve efficiencies, asset utilization, and turnaround times. Reduce additional time and empty running miles by not having to needlessly return to the depot.

8 Use accurate product data to maximize truck efficiency.

Maximize vehicle fill with up-to-date volumetric data. This allows for optimized routing and schedules while also taking constraints into account.

9 Identify plan deviations.

With information collected from vehicle tracking devices, transport managers can identify and improve driver and vehicle utilization to keep transport operation costs down.

10 Benchmark and review progress.

Ensure that your planners are collecting accurate operational data each day. You can use this data to benchmark the planning process, uncover areas for improvement, and detect trends. ■

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LEADERSHIP

*Conversations With
The Captains of Industry*

By Merrill Douglas



Kevin Nolan
Founder and CEO
Nolan Transportation
Group

From Top Waffle to Top Rhino

KEVIN NOLAN FELL IN LOVE WITH THE excitement of the freight brokerage floor the day he walked into a C.H. Robinson office, as a college senior, to interview for a job. “I loved the energy, the camaraderie among teammates,” he says. Having played lots of team sports, including college football, he felt right at home.

Today, Nolan heads a team of his own—the more than 650 employees who make up Atlanta-based Nolan Transportation Group (NTG). “NTG is all about a community, a family, and a culture,” Nolan says. It’s a high-energy firm driven by big expectations.

Nolan gave us a look into NTG’s history, the challenges and satisfactions that come with his job, and the experiences that have helped to define him as a leader.

IL: When you left C.H. Robinson, you became a store manager for Waffle House, and won the Top Waffle Award. Why did you take that detour from transportation?

I started working on my MBA while still at C.H. Robinson. I wanted to become a brokerage agent or start my own business, but I had a non-compete agreement to sit out. In the meantime, I needed to earn money. I love Waffle House, and they’re headquartered right in Atlanta. So I went into their management

program. I learned a tremendous amount there about hiring and cash flow management.

But as a manager, I worked weekends and all holidays. When my servers or cooks didn’t show up, I waited tables and cooked. It was not a difficult decision to get back into brokerage.

IL: How did you start NTG?

When I founded the company in 2005, I operated as an agent for Donnelly National Transportation in Haddon Heights, New Jersey. I was an independent contractor, paying my own rent and bills and getting a good grounding in the business. They knew I planned to go out on my own eventually, which I did in 2007.

Our early days were chaos at its finest. Our small team did everything: stuffed envelopes with checks to carriers, audited bills of lading, made sales, found trucks, forwarded the phones to one another for night dispatching. When customers were slow to pay, we struggled to pay carriers on time.

IL: What kinds of growing pains did you experience?

Capital was the biggest problem. Carriers and factoring companies wouldn’t extend all the credit we needed to handle our growing volume. Sometimes we had to pay them up front before they would pick up a load. I would take out mortgages on my home to meet payroll, and we sometimes had to rely on costly, non-traditional forms of finance.

IL: What's your leadership style?

I'm an emotional, strong, passionate leader. I also delegate extremely well, giving my other leaders enough room to do things the right way.

IL: How do you spend a typical day on the job?

Most of my conversations are with my top management; I speak with my department heads daily. I travel to our 12 locations regularly and also visit with customers. I put out large fires, and I try to find good leads for my top salespeople. I pay a lot of attention to the industry, following the numbers for the publicly traded companies.

I check out new technologies. I also interact with a lot of the other leaders in the brokerage space. I have many good friends I compete with but am also very collegial with. We try to help each other, sharing information about bad carriers that are trying to scam people or not paying their insurance claims, and we try to get a feel for the marketplace.

IL: What's the hardest part of your job?

One of the hardest things is managing the stress. I thrive on our good days, but the bad days hit me hard. Also, freight brokerage is not for everyone. It's an intense job.

IL: How do you keep morale high among your employees?

We encourage in-office and out-of-office activities as well as open communication across all of our 12 offices. We have a lot of sports teams—co-ed softball, basketball, lacrosse. We also have many costume days, including Favorite College Team Day, Halloween, and Tacky Christmas Sweater Day. Our newsletter highlights good news about employees both at work and in their personal lives.

IL: What's one of the best things to happen for NTG in recent memory?

In September 2016, Ridgemont Private Equity Partners in Charlotte, North Carolina, invested in our business. Having an outside investor of this caliber believe in us helps both validate and justify the solid foundation we have put in place for our business.

IL: Why does NTG's company logo contain a picture of a rhino?

There are a couple of key reasons we chose the rhino. One, you always have to be on the "horn"—that is, the phone—in the freight brokerage business. Two, you have to have thick skin. This

business is 24/7, requiring you to be persistent, resilient, and always ready to act if something doesn't go as planned. We've built teams around this mentality. We hit our goals because we work as a true team.

IL: Looking back on yourself when you graduated from college, if you could give that young person some advice, what would it be?

Manage your time outside of work in a positive way, to stay balanced so you can manage your stressors at work more easily. That might mean learning to play golf earlier, or getting involved sooner in community and volunteer work. Also, you're going to make mistakes, and you're going to learn from them. Mistakes don't define you, they make you better.

IL: How do you like to spend time when you're not at work?

I try to spend as much time as I can with my wife and my three beautiful daughters, who are 16, 11, and eight. My two oldest daughters are involved in equestrian riding. My eight-year-old plays tennis and soccer, and I help coach the soccer team. On vacations with my family, I love to go deep-sea fishing with my girls.

I golf—not well, but I'm getting better. We're involved in the Cobb County Schools sports program, making donations and helping with fundraisers. I'm also on the board of advisors for Skyland Trail, an organization that provides treatment to adults with mental illness. ■

Racing to Make A Difference

One of Kevin Nolan's happiest times at NTG came on Aug. 5, 2017, when the company put on a 5K race to benefit the Skyland Trail mental health treatment organization. The event drew immense support. "There was an ecstatic feeling about doing something that involved people's families, their dogs, our customers, and our carriers," he says.

Most people don't talk about mental illness often, but it affects everyone's family and friends in some way, Nolan says. The race raised about \$10,000 for the treatment facility. "We were making a difference," he says. "I'll never forget the feeling I had driving away at the end of the day. It was great."



Billy Duty is head of North American supply chain with BYK USA Inc., a division of Altana, a specialty chemicals company. He has held this position since January 2016.

RESPONSIBILITIES

Production and replenishment planning, forecasting, customer service, warehousing, and logistics.

EXPERIENCE

Director, supply chain center of excellence, director, SIOP, Momentive; global supply chain manager, Crompton/GE Silicones division; global project EDGE SAP implementation, Witco; and supply chain management, Crompton.

EDUCATION

West Virginia University Institute of Technology, B.S., Mechanical Engineering, 1994.

Billy Duty: Formulating a World-Class Supply Chain

I CAME TO BYK TO BUILD ITS NORTH AMERICAN SUPPLY chain. Just a few years ago, BYK had some import and resale business, but no export and little manufacturing. Today, we have six manufacturing sites and export more than we import.

One challenge in building the North American supply chain has been aligning with a multinational company. People accustomed to managing only a few orders every day now handle 2,000 or 3,000 orders each month.

When I started here, employees handling supply chain functions were scattered throughout the company. We had to identify them and bring them into the supply chain organization. Then we brought in leadership for each function, including logistics, customer service, and planning. Those departments didn't exist before.

We implemented a sales and operations planning (S&OP) process, including

key metrics regarding on-time delivery, inventory health, and other measures. We also implemented a repeatable, organized shipping process. On Tuesday, we review deliveries shipping on Thursday. On Wednesday, we stage them. By Thursday everything is ready to go. These steps bring organization and cadence to the process.

By the end of 2016, we raised on-time delivery performance from about 60 to 90 percent, and we've maintained it.

Over the past two years, I've talked with many customers about what we're doing to improve the supply chain. Often, we're their sole supplier. When we were at 60 percent on-time service, people got nervous. Now that we're at 90 percent,

The Big Questions

If you could attend any event in the world, what would it be?

The NCAA Final Four. I'd root for West Virginia. We don't have a pro team in West Virginia, so we live and die by the Mountaineers.

What advice would you give your 18-year-old self?

Save for retirement. Also, showing up every day is more than half the battle.

If you stay persistent, things generally work out.

If you could represent the United States in the Olympics, which sport would you choose?

I was a football player through college, but they don't have football in the Olympics, so the closest thing would be running. Probably sprinting.

and can communicate what we're doing to get even better, customers feel more confident about relying on us.

Recently, one of our business managers said it's much easier to grow when we're not firefighting supply chain issues. Our goal is for BYK to develop a world-class supply chain that's a competitive advantage.

We're working on our supply network across the United States, Mexico, and Canada. With BYK's growth and acquisitions, we have about one dozen external warehouses scattered throughout the country. We're determining how we want to supply from our plants, and from where.

After I earned my mechanical engineering degree, I wanted to design airplanes. However, starting with my first job, I spent about five years implementing SAP in every corner of the world.

When I finished, the company said, 'Hey, you know how the business works, you know where everything's at. Why don't you lead our supply chain?'

That's how I got into supply chain. I love it. It has allowed me to learn quite a bit.

Oliver Wight, a consulting company, sets a standard for world-class supply chains. I've led supply chains that have achieved that certificate. I've been fortunate to be

recognized as a Top 100 global supply chain professional and have led the implementation of an internationally recognized Top 100 supply chain project.

Things always change. The companies I was with during my career were bought and sold about seven times, so I've seen many different supply chains and businesses. I went from a mature supply chain with leading-edge tools to building one at BYK. I don't get bored.

I've been fortunate. Every time a company I worked for merged or was acquired, I've been able to take a step forward. ■

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NOTED

THE SUPPLY CHAIN IN BRIEF

GOOD WORKS



DHL Express delivered hundreds of Christmas trees, holiday decorations, and messages to U.S. troops stationed overseas, as part of Operation Holiday Cheer, a DHL charitable program that is now in its 14th year. Teaming up with the New York community, DHL made holiday deliveries to U.S. bases in Afghanistan, Bahrain, and Kuwait.

m&a

Transportation, logistics, and warehousing services provider **C.A.T. Holding** acquired truckload carrier **SLH Transport**. The combined fleet of both companies puts the new entity among the 10 largest truckload carriers in Canada. The consolidation of equipment boosts C.A.T.'s fleet capacity and North American coverage.

Canada-based transportation company **Day & Ross Transportation Group** acquired U.S.-based **REI Logistics** and **Korten Quality Systems, Ltd.** The two businesses will operate as Day & Ross Dedicated Logistics USA, a division of Day & Ross USA. The acquisition gives Day & Ross an operational footprint in the United States and market growth in dedicated delivery (auto), dedicated truckload (including temperature controlled), and warehousing.

SEALED DEALS

Beauty subscription service **Birchbox** credits logistics partner **SEKO Logistics** for helping it reach more than 160,000 U.K. subscribers by the end of 2017. The logistics provider helps Birchbox dispatch up to 50 different boxes per month to subscribers in the U.K. SEKO Logistics also fulfills orders placed through the Birchbox online shop. Birchbox partnered with SEKO Logistics for its U.K. and Ireland fulfillment and dispatch requirements in early 2015.



recognition

Penske Logistics introduced an initiative to honor the safest of its 4,500 truck drivers across North America. The three-tiered Premier Driver Recognition Program recognized 26 associates for their driving excellence at a recent awards ceremony (pictured: 2017 Diamond program honorees) in Reading, Pennsylvania. Three program classes correlate with the number of years of safe driving without an accident: Diamond (20 years), Platinum (15 years), and Gold (10 years). The Platinum and Gold programs are set to debut in 2018.



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Manufacturing IT: Investing for the Future

A continuum of change and digital transformation is swirling within the manufacturing industry and global economy. In this fluid environment, it can be tough for manufacturers to nail down IT planning strategies.

IDC's *FutureScape: Worldwide Manufacturing 2018 Predictions* can help. The study provides manufacturers the following 10 predictions and underlying drivers expected to impact technology investments in 2018 and beyond:



- 1 Ecosystems and experiences.** By 2020, 60 percent of Forbes Global 2000 (G2000) manufacturers will rely on digital platforms that enhance their investments in ecosystems and experiences, and support as much as 30 percent of their overall revenue.
- 2 Embedded intelligence.** By 2021, 20 percent of G2000 manufacturers will depend on a secure backbone of embedded intelligence, using Internet of Things (IoT), blockchain, and cognitive technologies to automate large-scale processes and speed execution times by up to 25 percent.
- 3 Data capitalization.** By 2020, 75 percent of all manufacturers will participate in industry clouds, although only one-third of them will monetize their data contributions.
- 4 IT-OT organizations.** By 2019, the need to integrate operational technology (OT) and information technology as a result of IoT will have led to more than 30 percent of all IT and OT technical staff having direct project experience in both fields.
- 5 Customer-driven design.** By 2019, 50 percent of manufacturers will collaborate directly with customers and consumers through cloud-based crowdsourcing, virtual reality, and product virtualization regarding new and improved product designs. This collaboration will improve product success rates by up to 25 percent, predicts IDC.

- 6 The service gig economy.** In 2020, augmented reality and mobile devices will drive the transition to the gig economy in the service industry, with "experts for hire" replacing 20 percent of dedicated customer and field service workers, starting with consumer durables and electronics.
- 7 The thinking supply chain.** By the end of 2020, one-third of all manufacturing supply chains will be using analytics-driven cognitive capabilities, thus increasing cost efficiency by 10 percent and service performance by 5 percent.
- 8 Supply chain commerce networks.** By 2020, 80 percent of supply chain interactions will happen across cloud-based commerce networks, dramatically improving participants' resiliency and reducing the impact of supply disruptions by up to one-third.
- 9 Market-driven assets.** By 2020, 25 percent of manufacturers in select subsectors will have balanced production with demand cadence and achieved greater customization through intelligent and flexible assets.
- 10 Intelligent assets.** By 2019, 15 percent of manufacturers that manage data-intensive production and supply chain processes will be leveraging cloud-based execution models that depend on edge analytics to enable real-time visibility and augment operational flexibility.



Meet a New Breed of Procurement Professionals

In a workforce being transformed by the rise of the gig economy and industry restructuring, what attitudes and behaviors do procurement professionals need to climb the career ladder? The first global survey from Procurious.com reveals some answers.

From developing vital mentoring relationships, to building social media profiles that have eclipsed the importance of resumes, to seamlessly leveraging professional networks to find new roles, Gen NEXT members are collaborative, proactive, and ambitious.

The report reveals the following:

- 40 percent of those surveyed will change jobs within two years, and 70 percent will leave within five years.
- More than half don't trust their bosses to help with career progression.
- Two-thirds regard their online profile to be as important as their resume.
- Professional networks are regarded as equally important for career advancement as on-the-job performance.
- 76 percent would use crowdsourcing to improve problem-solving with diverse ideas.
- Mentors are the most trusted source of career advice, yet finding mentors and sponsors is an uphill battle.
- 75 percent of managers "just send an email" when driving change, rather than using change-management tools at their disposal.

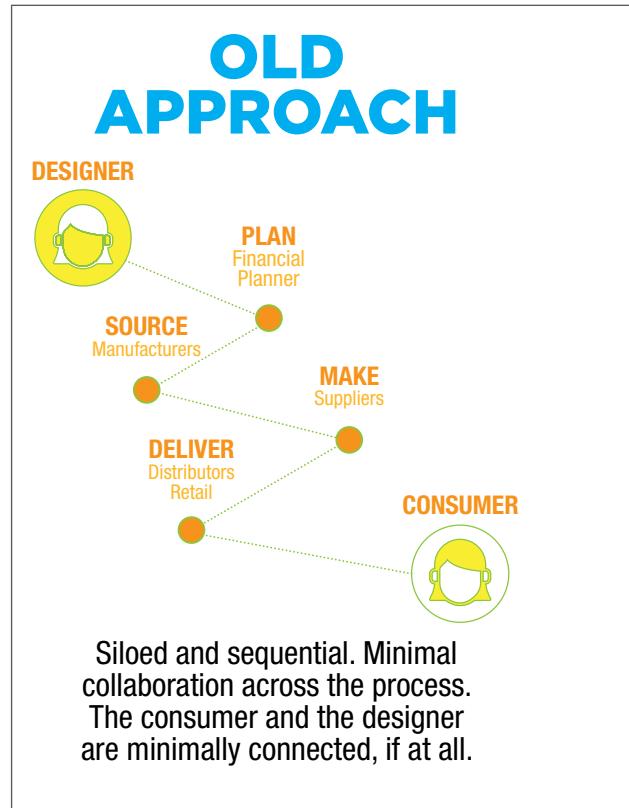
The Human-Centered Supply Chain

The fashion supply chain is moving toward a human-centered model, which shifts from a sequenced approach of siloed operations to a flexible network of participants and partnerships that will enable agile and adaptable supply chain operations (*see chart*). That's according to a new report developed by the Council of Fashion Designers of America, which worked with DHL, its official logistics partner, and in collaboration with innovation partner Accenture.

With a human-centered lens on design, manufacturing, and delivery, this model puts designers at the center of supply chain operations, empowered to build their networks through collaboration and by using digital tools and new business models to increase their flexibility in an industry that is currently in flux.

The human-centered supply chain benefits partners across traditional supply chain steps—from designers and material suppliers to factories and logistics partners—by focusing on relationship-building; enabling the sharing of expertise across partners; adopting collaborative approaches and shared communications; employing a networked approach to reduce costs and overall waste; and connecting partners across traditionally siloed steps to increase operational flexibility, according to the report.

The report identifies the following four key areas of focus to anchor insights and opportunities, driven by digitalization and the increase of e-commerce:



★ READY.

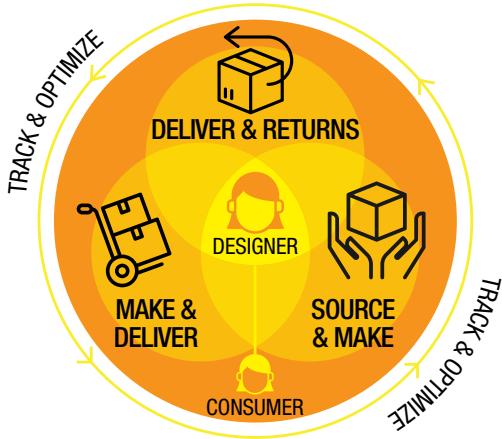
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NEW APPROACH



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designer at the center

SOURCE: The Human-Centered Supply Chain, by
CFDA, DHL, and Accenture

- 1 Process ownership.** A process with clear communication channels across partners will increase flexibility in sourcing, producing, and delivering collections, and a well-defined—but flexible—approach will create more successful refinements. The key is to focus on process as a major component of design, integrating partners early on with clear communication of requirements about traceability and sustainability (if relevant), and including a dedicated step to integrate learnings from season to season.
- 2 Relationship building.** Developing and nurturing relationships with supply chain partners, from mentors and experts to like-minded peers, is critical to success. Companies should focus on a relationship-first rather than transaction-based approach that identifies partners to collaborate with—to fill gaps in expertise, leverage passion points (such as sustainability), and create opportunities for sharing and collaboration.
- 3 Brand operations.** Establishing clear operations and avoiding continually reinventing the brand has proved an effective way to avoid unnecessary costs and confusion for consumers and suppliers. The key for retailers is to make the supply chain part of their brand story, with a test-and-learn model for manufacturing partners and retail, while developing clear ownership for shipping and retail partner relationships.
- 4 Actionable information.** Information feedback loops between suppliers, designers, and consumers enable operational improvements and greater collaboration. Success requires integrating information at every step for more proactive and iterative decision-making, with an established cadence for reviewing sales and consumer data with retailers, and analysis of emerging trends and consumer behaviors from both inside and outside the industry.

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Simplifying Trade Complexity

GLOBAL TRADE PROFESSIONALS experienced a great deal of disruption during 2017, with trade agreements being canceled and renegotiated, regulatory enforcement on the rise, the timeline for Brexit approaching, political instability a growing concern, and more. Networks that had been relatively stable for years are now in flux.

To respond to these global market forces, companies need to re-engineer processes and supporting systems to achieve a new level of agility. To help supply chain managers proactively prepare, Amber Road and AAEI published *The Trade Trends Report, 2017 Survey on Sourcing, Trade and e-Commerce*, which identifies the following global trade challenges and strategies.

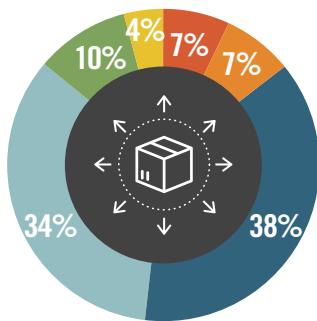
1 E-commerce continues to wipe out brick-and-mortar, resulting in an online sales upsurge

E-commerce's place in shaping today's retail landscape is no longer in dispute, if it ever was. The tidal wave of store closings that swept through the retail industry in 2016 took down both old icons and newcomers alike. While part of this was attributable to the global economic climate, a large portion of the impact came from e-commerce replacing traditional sales channels.

Yet the wave of store closures that began in 2016 hasn't crested just yet. As of August 2017, the number of U.S. store closures totaled 6,098; compare that to 2016, which saw 2,159 major store closures.

When survey respondents were asked which issues their e-commerce channel has experienced, more than one-third report the largest impacts come from shipping and/or transportation challenges that impact the ability to achieve strategic goals or objectives.

IMPACTS ON E-COMMERCE CHANNELS



- Negative impact on net income & financial statements
- Shipping/transportation challenges that impact ability to achieve strategic goals or objectives
- None of these
- Regulatory penalties leading to delays and fines
- Brand reputation damages (recalls, etc.)
- Other

2 Challenges include speed-to-market, disruptions, and free trade agreements

The 2017 global trade landscape shifted significantly from expectations in 2016. The Trans-Pacific Partnership (TPP) agreement, which would have covered 40 percent of global commerce involving 12 Pacific Rim nations, is essentially defunct following the U.S. exit. The opportunity for duty-free trade with Japan, Vietnam, and Australia has flitted away, and sourcing decisions that were made with an eye to eventual enactment of the TPP may now look like bad ones.

Companies that are well insulated with a diversified sourcing base will fare better when unexpected events come to pass, or when expected events don't happen.

Diversification, however, comes with risks. Survey respondents recognize the challenges of running a global supply chain, including speed-to-market, vulnerability to disruption, and the complexity of international trade compliance. Different sourcing locations have a unique set of considerations, including product quality and the potential for duty-free or preferential trade.

3 Sourcing establishes itself at the core of global supply chains

Sourcing decisions impact everything from shipping costs to compliance concerns. Many factors—raw material availability, labor costs, trade preference programs—can affect sourcing decisions. Digital data on current and potential sourcing locations simplifies decision-making.

4 Top concerns for 2018 include supplier risk, regulatory risk, lack of staffing, and transportation costs

When it comes to e-commerce versus traditional retail, the supply chain's main functions aren't extraordinarily distinct. Every company is concerned with the bottom line and meeting consumer expectations, regardless of the channel.

Whether a product is destined to arrive in a storefront or directly to a customer's doorstep, it starts in the same place and travels along the same supply chain. The logistics of that movement, however, can differ as the product approaches its final destination. For cross-border e-commerce, shipments of single packages can bring even more transportation headaches than containers of goods, because they are often low-value with small margins. That doesn't leave much room for error.

Thanks to the expansive nature of today's global supply chains, there are numerous places where risk calculations must factor in. When asked where their company is most vulnerable, respondents are almost evenly split between several large, impactful concerns. The highest-ranking vulnerability reported (25 percent) is supplier risk based on product quality. Another 21 percent say supplier risk based on capacity and stability, 20 percent say regulatory compliance risk, 19 percent say lack of staff to manage the supply chain, and 15 percent say transportation costs.

Building Resilience in Your Global Supply Chain



IF YOUR COMPANY has a business continuity plan in place in the event of a supply chain disruption, you are not alone. Nearly 75 percent of organizations responding to a report published by the Business Continuity Institute and supported by Zurich Insurance Group have made business continuity arrangements related to supply chain management.

Companies that have business continuity arrangements in place are eight times more likely to report greater supply chain visibility, twice more likely to insure for supply chain losses, and three times more likely to display top management commitment, according to the report.

While respondents report they turn to technology and big data to overcome skills and resources gaps in supply chain management, the study shows that 63 percent of organizations do not use any

technology to analyze, track, and monitor supply chain performance. And while there is an increase in the availability of insurance products against supply chain losses in the market, 51 percent of organizations do not insure against supply chain disruption at all.

Two other important aspects of supply chain resilience are reputation, which requires organizations to become more aware of the issues around their supply chain and communicate effectively in times of crisis, and collaboration, which still faces challenges in being implemented, but represents a great resource for effective supply chain management.

Other findings of the report include:

- **The top causes of supply chain disruption are unplanned ICT and telecommunication outages, cyber attacks and data breaches, and loss of talent and/or skills. In 2017, fire showed the biggest increase in supply chain disruptions, jumping from 14th last year to the 7th biggest cause of disruption in 2017. Terrorist acts and currency volatility dropped out of the top 10.**
- **The top three impacts of supply chain disruptions are loss of productivity (55 percent), increased cost of working (46 percent), and customer complaints.**

Meds Move to Maritime

More pharmaceutical shippers are looking to ocean freight as an alternative to the more expensive air freight, but there are some drawbacks to consider. Temperature-controlled containers are of variable quality, while the availability of good equipment can be poor in some regions, according to Pharmaceutical Outsourcing. Transit times are also slow, which can increase inventory costs and introduce supply chain problems.

But, says Mark Edwards, managing director of Modalis and chairman of the Pharma IQ Sea Freight Working Group, there are ways to mitigate the drawbacks:

- **Use containers less than five years old.** These have been shown to be more reliable.
- **Communicate shipment requirements well in advance to ensure availability.** Work with your freight forwarder to find out which shipping line offers the best service on each route.

■ **Have a tri-partite quality agreement with your freight forwarder,** as well as with the relevant shipping line. This gives you a signed document showing that everyone fully understands your needs.

■ **Conduct a full risk assessment of this part of the supply chain.** Different ports and vessels will have different power outage times so comprehend the risk and arrange suitable mitigation.

Shippers continue to evaluate alternative transport modes to ensure high-valued, temperature-sensitive pharmaceuticals are delivered to the final destination without being compromised. Air, ocean, road, and rail all have their benefits as well as drawbacks. Shippers will not only need to do their homework to determine the best mix of transportation, but also work with their supply chain partners to communicate needs and set expectations.

—Cathy Roberson is a contributor for Pharma IQ



It's Now or NAFTA

THE ODDS ARE “about 50-50” that NAFTA will be terminated, according to Gerónimo Gutiérrez, Mexico’s ambassador to the United States, following a fifth round of renegotiations among the United States, Mexico, and Canada on the nearly 24-year-old free trade agreement.

“I remain concerned about the lack of headway,” said U.S. Trade Representative Robert Lighthizer in a Nov. 21, 2017 statement. “Thus far, we have seen no evidence that Canada or Mexico are willing to seriously engage on provisions that will lead to a rebalanced agreement. Absent rebalancing, we will not reach a satisfactory result.”

Despite the uncertainty of whether NAFTA can be successfully renegotiated, Gutiérrez told CBS News that over the past year the prospects and efforts toward a new deal have increased.

“In spite of important differences, we’re communicating fluently, we’re engaging, and that’s important,” Gutierrez said. “I’m moderately optimistic we can, in fact, reach an agreement in the next few months.”

President Trump has criticized the deal as unfair, behind multi-billion-dollar trade deficits with the United States. New talks begin in January 2018.

CHINA ON A LOGISTICS SPENDING SPREE

Chinese companies are acquiring overseas warehousing, trucking, and other logistics service providers in record numbers as part of its goal to build a new Silk Road. Total acquisitions in Europe, Asia, and other regions by Chinese groups of logistics companies more than doubled in the first 11 months of 2017 compared to all of 2016, according to investment bank Grisons Peak.

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The Need for Speed in Automated Truck Policy

I recently read that in the 1970s, Congress held hearings and engaged in serious discussions about whether or not a personal computer could be trusted not to read the brainwaves of its users. This is a fine example of how those responsible for regulating technology tend to trip over what they don't understand. That's why I found myself relieved when the American Trucking Associations (ATA) released its proposal for an automated truck policy.

Without input from experts who actually operate in the trenches, disruptive technologies can get regulated right out of existence. Remember Napster? The regulatory hiccups generated by the technology pushed it into the courts, underground, and then out of business. Without an appropriate framework in place for automated trucks, those too could wind up being only a flash in the pan.

The State vs. Federal Dilemma

Fortunately, the ATA has offered up a basis for regulators to use when building a federal policy in regard to automated trucks. One of the key points in their proposal involves empowering the federal government to do the heavy lifting. Automated trucks will primarily support long-distance interstate commerce, and letting individual states develop their own sets of regulations regarding the technology will only stunt market potential and development.

Don't get me wrong—I'm usually a big proponent of state's rights and using multiple state regulatory models as a trial-and-error playground for new technologies. At this point, however, we can't afford to let mixed regulations stifle a technology that the trucking industry desperately needs.

The ATA projected that the truck driver shortage will hit 50,000 by the end of 2017. Trucking needs automated solutions to provide capacity and meet growing demand, and manufacturers

of those solutions can't afford to tailor every vehicle based on what region or state it will operate in. Instead, a strong federal policy will provide consistency, which will drive growth in the national market and spur developmental advancements in the technology itself.

The Driver Debate

Anyone who pays attention to the driverless truck issue can tell you that opponents fear the loss of truck driving jobs, but our truck driver shortage will continue to grow. NAFTA renegotiations could force the driver gap to expand even further—and why is it so hard to fill these jobs?

Because driving is hard. It's a rare driver that still enjoys long-haul trucking. The hours are grueling. The time away from friends and family makes it worse. Many long-haul drivers wind up leaving the industry altogether as soon as they find something that lets them stay at home. The fact is, most drivers would rather operate regional routes, and automated trucks will let them do that. Let the driverless vehicle handle the coast-to-coast routes while human truckers do the short hauls and Last Mile.

The benefits of automated technology will help these drivers as well. Better collision warning systems will keep them safe. Better GPS will help them run on time. Trucks that can run long stretches on their own will give them time to do paperwork or eat lunch without losing miles.

At WSI, we're acutely aware that this driver shortage is not sustainable long-term. Every transportation provider knows this. We're also aware that automated trucks could solve this problem entirely within a matter of years. Instead of battling the idea around regulatory agencies for the next five years—Prime Air anyone?—regulators must take the ATA's proposal seriously, and use it as a basis for policies that aid in the development and testing of automated vehicles across state lines.

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[IT MATTERS]

BY SEAN RILEY

Director of Strategic Business Solutions, Software AG
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Building Visibility, Response, Resiliency

Chief supply chain officers (CSCO) are tasked with a range of challenging issues when it comes to managing a company's product supply chain. To maximize productivity and efficiency, the CSCO should consider visibility, response, and resiliency the most important aspects of supply chain management.

Digital transformation is underway in supply chain management and it is evident in visibility. Manufacturing is an intricate web, complicated by the global economy and developments such as big data and sensor technology. CSCOs encourage using this data to help better understand manufacturing processes.

The Internet of Things (IoT) allows the integration of customers, the front office, and supply chain operations to provide a more holistic picture of operational efficiency. IoT makes situational awareness possible through real-time, end-to-end supply chain visibility. It is a critical enabler of obtaining real-time insight into production performance, giving manufacturers the power to identify problems and resolve them with minimal cost and disruption.

Gaining visibility into the supply chain is invaluable, but your CSCO knows that it means nothing without an informed, right-time response.

Awareness and visibility are fundamental building blocks to gaining insight into data, and are critical to understanding the correlations between supplier

tiers, production, and customer demand. These connections are important as the supply chain leaves little room for error or oversight.

There is a difference between becoming aware of a problem immediately and acting upon it immediately. A crucial, yet often overlooked function of responsiveness is ensuring an organization and its partners are responding at the right time and not throwing maximum resources at every issue.

Resilience Guidelines

Manufacturers need to increase their awareness and responsiveness to the digital supply chain to remain competitive. One of the most important factors for success is resiliency.

Resilience ensures enterprises can effectively manage any exception or requested change while improving net margin, without sacrificing improvements to customer satisfaction or revenue growth. It is important to CSCOs that supply chains function with agility and awareness so they are not paralyzed by disruptions. A CSCO wants to

ensure that while some workflow disruptions are unavoidable, the supply chain has a critical need for risk assessment and mitigation.

There are three simple guidelines to understanding resilience within the work of manufacturing:

1. Manufacturers should identify internal changes, understand their impact, and quickly adjust to them without incurring a negative cost or impacting customer satisfaction.

2. Identify external changes. Then understand the potential repercussions of these changes and quickly adjust to them without a negative cost or customer satisfaction impact.

3. Educate enterprise associates on supply chain resiliency and functionality processes as well as business impacts to maintain consistency and continuity.

Building the Foundation

Becoming resilient means a manufacturer can identify problems in real time and act on them before customers feel an impact. It means they can identify and understand the leading indicators that drive performance success to manage issues before they occur. Resilience, however, means nothing without also having the foundation of strong visibility and responsiveness, and being able to clearly discern the intricacies of the supply chain. ■

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VIEWPOINT

BY LAWRENCE CATANZARO AND TONY FRICCHIONE

Lawrence Catanzaro (*pictured*) is senior director of transportation and Tony Fricchione is senior director of operations, Kane Is Able
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How to Navigate the Driver Shortage

The industry's driver shortage is no secret. About 100,000 seats need to be filled at a time when the pipeline for new drivers is getting thinner. But what's the practical impact on shippers as this shortage gets worse? In short, it won't be pretty.

Tighter capacity will lead to fewer choices. Regulations mandating the use of electronic logging devices (ELDs) will result in driver productivity losses of up to 15 percent. Some marginally profitable carriers won't survive, reducing available capacity. The remaining carriers, including owner-operators, will be more selective about the freight they accept, and shippers will have no choice but to be more carrier friendly.

Adapting to a New Market

On inbound freight, the percentage of no-shows is rising as drivers run out of hours. Warehouses that staffed to receive these incoming loads end up paying idle workers. On the outbound side, loaded pallets accumulate on the dock as transport delays slow inventory turn times. Companies that have cut tens of millions of dollars of inventory through great planning and just-in-time delivery may need to increase safety stock for the first time in years.

Small and mid-sized shippers will need to lock in capacity. Smaller volume shippers are more vulnerable to capacity shortages. They should plan ahead to

avoid supply chain disruptions linked to capacity shortfalls.

Inexperienced drivers will lead to more errors, delays, and damage. Some carriers, in an effort to fill seats and avoid turning down loads, are hiring less experienced drivers. While this practice gets freight moving, it creates other challenges such as higher accident rates and more frequent cargo damage incidents.

Site selection criteria will change. Companies that might otherwise favor cost-efficient warehouse locations in rural areas may elect to pay more and locate closer to urban centers to try to maximize productive driver hours.

How to Lessen the Impact

As carriers get more selective about the freight they haul, shippers need to make themselves more carrier friendly in two important ways.

1. Create driver-friendly locations.

This means eliminating lengthy waits to unload. Retailers have not stepped up to address this problem, despite the fact that such waits have a financially crippling, domino effect on a carrier's multi-stop schedule. Long waits often

mean late-day deliveries must be pushed to the next day to remain compliant with hours-of-service regulations. Third-party logistics providers and carriers have reluctantly tolerated this inefficiency—perhaps because the freight market has been soft. But that's changing.

Also, create a facility that drivers want to return to. Provide clean, accessible bathrooms and a driver break room. When drivers are treated with respect at locations where pick-ups and drop-offs happen quickly and easily, they will want to return.

2. Build longer-term relationships with carriers. Many shippers continue to shop out their lanes through yearly RFPs in an effort to save money. This is the freight equivalent of speed dating and the savings are illusory. Longer-term contracts give carriers time to mine for other customers and build an efficient network with minimal deadhead miles. That leads to more strategic relationships, more reliable capacity, improved service from consistent drivers, and, yes, lower costs as rates are locked in for a multi-year contract period.

As the driver shortage worsens and capacity gets tighter, shippers will need to adapt to more of a seller's market. Going forward, carriers will direct available freight capacity to shippers that help them maximize drive time, asset utilization, and profits. ■



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End-to-end Visibility Is Crucial to Shipper Network Optimization



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“Visibility.” It’s more than just the latest buzzword on everyone’s mind and tip of the tongue. But what does it mean and what is its value in your supply chain?

As technology advances, the velocity of business increases, the proliferation of personal electronic devices continues, and people’s expectations of shippers grow. Today’s consumers already assume they will be able to get an immediate status update on a shipment, product, or event simply by checking their smartphones or tablets.

These heightened expectations not only

require faster order fulfillment, but data and information that is extremely reliable. Shippers are seeking velocity, agility, and high service reliability in their supply chains. In fact, the desire for supply chain agility has overtaken transportation and inventory cost on shippers’ lists of concerns as companies strive for customer retention. Cost pressures on shippers certainly have not lessened, but the plethora of choices available to customers means that meeting their demands has to be Priority #1.

Q: *How can I achieve visibility to optimize my supply chain?*

A: It’s crucial to understand that visibility in and of itself will not deliver customer satisfaction and retention. However, when paired with proactive communication and predictive analytics, the powerful combination shines a light on the areas of cost and waste across the supply chain—and can lead to areas for process and continuous improvement.

It’s possible for shippers to gain better control of their inventory by reducing safety stock by up to 20 percent, reduce premium freight expenditures by 5 to 50 percent through better inventory and supplier management, move distribution resources to points of immediate need, and gain control over the increasing exposure to delivery fines. Of course, these factors all contribute directly to cost containment and customer satisfaction.

Q: *How can analytics impact the performance of my supply chain?*

A: Visibility can’t stop at product picking and restart when a truck is moving.

There are activities and processes between these two events that are frequently forgotten but can have an impact on the performance of your supply chain.

Analytics provides the opportunity to:

- Address a wide array of inefficiencies related to driver detention and other delays
- Improve paperwork processes (such as in and out gate procedures and digital bills of lading)
- Facilitate better forecasting of truck demand to reduce short lead time activity
- Eliminate redundant communication
- Respect the strict hours of service under which drivers operate

Q: *How does visibility move from buzzword to business results?*

A: The answer lies in system integrators. These technology platforms and their underlying processes merge data captured across an organization into one system. This provides a consistent, clear view of a shipper’s supply chain and creates the opportunity to take action. Simply put, greater end-to-end visibility lays the foundation for transformational change within shippers’ supply chains.

Q: *Where do I start?*

A: Working with supply chain experts that can provide the technology platforms to allow shippers to achieve network optimization and end-to-end visibility is crucial.

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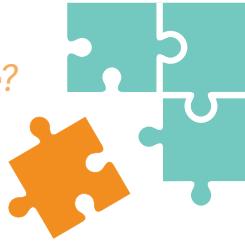
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Transportation Solution Offers Significant Savings

BluJay's SaaS transportation management solution helped Ace Hardware reduce freight spend and improve service.

THE CHALLENGE

Ace Hardware was managing its inbound transportation process manually with spreadsheets, utilizing inefficient processes, and producing outdated information. Ace wanted better control of inbound transportation to automate processes, gain efficiencies, understand costs, and identify areas for improvement. The company recognized the potential ROI for a transportation management system and decided to slate the project in front of an ERP implementation, with the goal of finding a TMS requiring limited IT resources.

Goals for the TMS included:

- Gain visibility into true freight costs
- Identify and manage inbound freight
- Centralize freight payment
- Obtain business intelligence to assess carrier performance
- Reduce freight costs

THE SOLUTION

With BluJay's Transportation Management solution, Ace Hardware has automated tasks, used the Global Trade Network to manage inbound shipments, and gained visibility of orders, shipment status, and costs. Ace estimates savings of over \$18 million in transportation costs since implementation.

Other ongoing benefits include:

- Improved real-time visibility
- Reduced safety stock levels
- Increased freight bill savings
- Reduced lead time from production to receipt



"BluJay's Transportation Management runs our daily operations and we harvest the visibility of real-time information to gain better control of transportation performance and cost," said Ace Hardware's director of transportation. "BluJay's Transportation Management gives us the business intelligence and analytics to structure our carrier procurement by providing better information to carriers so they can submit rates and service proposals based on actual transportation information. BluJay's Transportation Management is the gift that keeps on giving. Their solution runs our transportation network while opening our eyes to additional opportunities with broad supply chain impact."

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The Customer Experience

The Last Mile Gets the Royal Treatment

In e-commerce, how you deliver is nearly as important as what you sell.

By Merrill Douglas



If you are an e-commerce merchant, your supply chain might stretch thousands of miles. But these days, all eyes seem to be trained on the final stretch of that journey from the point of manufacture to the customer's hands. Retailers and their service providers are applying a range of strategies to deploy the last mile of e-commerce fulfillment to win consumers' hearts and minds.

The theory is that if you make the experience pleasant, provide lots of information, offer special services, and maybe turn the product's arrival into a mini-celebration, customers will keep coming back for more.

"The last mile is about the customer experience," says Melissa Runge, vice president of analytical solutions at logistics consultancy Spend Management Experts, Atlanta. "The logistics of e-commerce, including fulfillment and delivery, has become a competitive advantage."

In the battle for e-commerce customers, the weapons that merchants keep stocked for use across the last mile include: services that tailor the speed and cost of delivery to customers' desires; flexible delivery options, such as alternative drop-off points; abundant, well-presented updates about orders in progress; special services for delivering oversized items; and packaging strategies that reinforce the brand and let consumers know how much you care.

Fast, Free, Flexible

Since Amazon and other retail giants introduced one-day and same-day shipping, fulfillment speed has become a hot topic in e-commerce. "Customers are more likely to make a purchase if the delivery date is soon," says Nick Hobbs, executive vice president, and president of dedicated contract services at J.B. Hunt in Lowell, Arkansas. "And the definition of 'soon' keeps getting shorter."

But not every customer expects instant gratification. Take one of Runge's clients, a collectibles vendor. "Their target market is not necessarily a young person who might expect the goods the next day," she says. Certain customer categories are willing to wait. But, like many others, they want free shipping in exchange for their patience.

"One size does not fit all," Runge says. "Retailers must tailor the logistics to fit the needs of existing and future customers, based on what they expect."



J.B. Hunt's Final Mile service specializes in home deliveries—ranging from dropoff to white glove—of appliances, furniture, mattresses, fitness equipment, and many other products.

Similarly, doorstep delivery is not the best choice for every shipment. Customers don't change their activities just because they have deliveries coming. "But they still want their packages delivered during the day, when they may not be home," Runge says.

To address that need, Amazon recently introduced "Amazon Key," which lets a delivery driver with an access code enter a consumer's home to drop off packages. UPS also offers a network of Access Point locations across the United States ranging from "The UPS Stores to local convenience stores," says Louis DeJianne, director of retail marketing at UPS in Atlanta. A consumer who won't be home, and doesn't want a package to wait unattended, can choose one of those delivery sites and then retrieve the package when it's convenient.

In some major cities, UPS has also started rolling out unattended UPS lockers, which a consumer unlocks with an access code.

The UPS My Choice service, which sends package tracking notifications, offers further flexibility. Customers can reroute deliveries in progress—say, if they expected to be home but then need to work late.

Retailers are also exploring new solutions for delivering perishables, such as produce and pharmaceuticals. "Some are testing delivery to a refrigerated facility," Runge says.

Officials at Thrive Market, a Los

Angeles-based e-commerce retailer that sells healthful groceries and other items, have lobbied UPS and FedEx for additional delivery options, such as "Saturday delivery, which they're both rolling out," says John Winkles, Thrive's senior vice president, supply chain. "We're also pushing them to do Sunday delivery so we can get product to people seven days a week."

Building Anticipation

Besides refining their physical delivery methods, e-commerce merchants also focus on delivering information. Good communication stokes the excitement that starts to grow the moment a consumer clicks the "buy" button. "By proactively engaging with customers during that time, retailers build anticipation and create lifelong relationships," says Amit Sharma, founder and CEO of San Francisco-based software firm Narvar.

Narvar develops custom-branded, post-purchase information platforms, each designed to look and feel like the retailer's website. Buyers use these platforms to track incoming orders and manage returns. The platform can also push messages to consumers—for example, to tell them that an order has just shipped.

"According to our recent survey, 73 percent of shoppers believe messages containing order tracking are 'very important,'" says Sharma.



To help retailers champion their customers, Narvar provides estimated delivery dates at checkout and precise, automatic updates about orders in progress.

“Proactive updates when things go wrong are just as important: 98 percent of shoppers feel better about a company if they’re notified immediately about an issue.”

DeJianne agrees that status notifications are crucial. He points to an optional feature in UPS My Choice that emails when packages have shipped, are scheduled to arrive, and have been delivered.

When Size Matters

Not every product sold online comes in a package that can slide into a locker or be left on a porch. Amazon sold \$2.3 billion worth of furniture in the United States in 2016, according to research firm One Click Retail. Consumers also turn to e-commerce merchants such as Overstock and Wayfair, plus a host of omnichannel retailers, for bedroom suites, dishwashers, workout equipment, and other products that require special handling. Some items are simply big; others need setup services.

Responding to this wave of oversized items, some carriers from beyond the package shipping market have started to focus on the e-commerce last mile. One example is Schneider, which in 2017 bought two last-mile transportation companies—Watkins & Shepard of Missoula, Montana and Lodeso of Zeeland, Michigan. Schneider is using their capabilities to further enhance its own Final Mile+ service.

Providing excellent final-mile service for large items demands careful

attention to the whole supply chain. For instance, how does the product get from the original manufacturer into the distribution network? “Using traditional channels, it could be on a less-than-truckload shipment, using material handling equipment that is really designed for pallets,” says Bill Matheson, senior vice president and chief commercial officer at Schneider.

That equipment doesn’t work well for, say, a sofa. “Carriers need to engineer the first mile to make sure it will not result in damage or a claim, and then reduce touchpoints all the way through the network,” Matheson says.

For the actual hand-off to customers, Schneider is moving away from delivery agents, in favor of employees driving Schneider-owned trucks. “With agents, carriers don’t have as much control over the equipment and the standard operating procedures for assuring that the customer gets a great experience,” Matheson says.

In many cases, the final mile for large items includes special “white glove” services. That could mean moving a bed upstairs, attaching legs to a table, or providing complicated installation services.

“A mattress delivery is simple, the drop and hook of a final-mile delivery,” says Hobbs at J.B. Hunt. “But installing a refrigerator or dishwasher takes a skilled delivery team.”

The quality of final-mile delivery for large items can impact how consumers feel about a brand or a

retailer. J.B. Hunt’s Final Mile services starts with the distribution space the company provides to make products available quickly when consumers want them.

“We are also responsible for meeting consumer delivery expectations, including timing and communication, as well as the in-home experience,” Hobbs says. “If one delivery hits a snag, it can impact a consumer’s shopping pattern and create the potential for negative feedback online.”

Thinking Inside the Box

While standard-sized packages don’t need white-glove treatment, many e-commerce merchants put careful thought into providing a great experience when smaller products reach the delivery address.

Thrive Market uses “unboxing”—the experience of opening a package and taking out the product—to reinforce the value of its brand in the customer’s mind (*see sidebar*).

To keep full control over the unboxing experience, officials at Thrive Market decided early on to run their own fulfillment operation, rather than outsource to a third party. “We wanted everyone who packed our boxes to be a Thriver—someone who was committed to the company,” Winkles says.

Thrivers receive training on packaging aesthetics. “We specifically train on the ‘fragile wrap’ so the package looks like a Christmas present when customers unwrap it,” Winkles says. Packers also learn how to use dividers to separate heavier and lighter items. “We don’t want chips or crackers to show up crushed,” he says.

Some consumers want their unboxing experience to come without too much cost to the environment. E-commerce merchants who seek their business take pains to oblige, sometimes with help from service providers. “We partnered with organizations that create customized packaging to minimize

the amount of filler within a box, as well as the size of the box,” says DeJianne.

At Thrive Market, it has become clear that customers want just enough packaging to keep products undamaged, but no more. They also want packing materials to be recyclable, and made from recycled content. Complying with that mandate costs money. “But it helps to create our brand experience,” Winkles says.

The days when retailers wooed shoppers to brick-and-mortar stores with lavish décor, charming tearooms, and personalized service are mostly gone. In the e-commerce age, fewer consumers get to enjoy the little thrill of a smiling sales clerk placing a new purchase into their hands.

Smart e-commerce merchants are working to replace that point-of-purchase encounter with an equally satisfying experience, based on outstanding service across the final mile. ■

The Unboxing Channel

How important is the moment a customer unpacks a new e-commerce delivery?

Go to YouTube and search “unboxing.” If you weren’t already clued in to this phenomenon, you’ll discover a new world—an endless stream of videos starring happy consumers displaying their latest purchases, including new cell phones, gaming systems, fashion items, kids’ toys, and anything else you can think of, fresh from the carton.

Unboxing videos—some sponsored by brand owners, some produced just for the joy of it—illustrate the notion that taking a product from its shipping box should feel like unwrapping a gift.

Los Angeles-based Thrive Market doesn’t get involved in creating the videos in which customers show off their “hauls” of healthful groceries. Customers create those pieces of “Look what I got!” art on their own initiative. “A lot of them are dedicated Thrive members who order regularly, are excited about the brand, and enjoy sharing it,” says John Winkles, senior vice president, supply chain, at Thrive.

Thrive employees hold a weekly meeting to discuss the member experience, watch unboxing videos, and share stories that customers have posted on social media. Thrive’s most dedicated members consider the service a kind of club, and they enjoy spreading the word. “The unboxing videos are an excellent way to do that,” Winkles says.

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Having manufactured, packaged, and labeled Sphero's product in Dong Guan, China, the challenge to DLS Worldwide was to knit together local ex-works services, warehouse fulfillment (in Hong Kong), airfreight and integrator shipping options, plus destination DDP services, to meet a very strict deadline named "Force Friday." This project all took place during the very busy airfreight peak season, and coincided with new Apple and Samsung product releases, all competing for airfreight capacity.

The products were displays, multiple language videos, and Droids (R2D2, BB8 and BB9) all timed for the market release of the *Star Wars* movie being released in December 2017.

QUARTERBACKING THE TEAM

The DLS Worldwide solution was to bring together a working team of like-minded services providers: a major air transportation freight forwarder partner in China who also provided warehouse fulfillment, the largest small-package integrator and air carrier in the world, and destination partners to provide all customs and recovery services, quarterbacked by the DLS office in Roselle, IL.

This working team, privy to all communication as to avoid any delays or problems, worked in concert with each other to assure complete visibility of every carton, to every location around the world. There was one purpose and all goals were

met, including zero damage and zero loss of any product, delivered on time by Force Friday!

A significant reason why this project was so successful was the early involvement and engagement of DLS Worldwide by RRD Packaging Solutions. By having a "seat at the table" while design, production, and manufacturing were being discussed with Sphero, with logistics in the room, DLS could map out its own strategy to meet all deadlines.

Most times, the freight forwarder is brought into the discussion long after manufacturing is planned and started. By being part of the very initial conversations, DLS could immediately address transportation options, such as the use of non-stop wide-body flights from HKG to LAX, courier solutions to smaller carton count destinations, document preparation, and the needs of the various Customs authorities.

DLS Worldwide's ability to plan ahead, address daily any event or occurrence as it arose, keep all parties updated as cartons and pallets moved from point to point, and provide seamless visibility made this a very successful program for all companies involved.

In the end, 12,700+ cartons of displays and droids were moved from Dong Guan to Hong Kong, China, to the United States and importers around the globe in advance of the next *Star Wars* movie.

To learn more about DLS Worldwide's solutions, visit dlswworldwide.rrd.com, call 888-757-0291, or email dlsinfo@dls-ww.com.

Supply Chain Super Bowl

America's appetite for build-a-bowl restaurants is growing, but the concept serves up new supply chain challenges.

By Karen Kroll





During the eight years Ting Yen managed sushi operations in grocery stores, he fielded numerous customer requests for customized dishes. “We told customers we couldn’t accommodate them,” Yen says. “We had to follow the menu.”

Fortunately for both Yen and his sushi-loving customers, those requests sparked the idea for Sushi Fuku, a “build-a-bowl” restaurant concept focused on—not surprisingly—sushi. As a co-founder, Yen launched the first location in Pittsburgh in 2012, and has added a second. A third is in the works.

Build-a-bowl restaurants—where consumers choose the ingredients that make up their pizzas, burritos, gyros, and sushi, and watch as it’s prepared—are enjoying solid, steady growth. Many industry analysts place build-a-bowl restaurants within the fast-casual segment of the restaurant industry, which will grow more than 10 percent between 2016 and 2020, predicts market research firm Technavio.

Even as build-a-bowl restaurants thrive, they face numerous supply chain challenges. To tackle them, supply chain professionals turn to technology and employee training, and forge close relationships with their colleagues in marketing, among other steps.

A Mix of Challenges

Demand planning and replenishment schedules for build-a-bowl operations can be hard to get right, as each order is custom-created. The challenge is heightened when many ingredients are fresh because restaurants frequently must discard items that aren’t used often.

“Build-a-bowl restaurants don’t have a standard recipe,” says Pan Chen, senior director, business analytics, with HAVI, a supply chain management solutions

provider. “There’s more volatility in demand for individual ingredients.”

Moreover, it’s unlikely each employee will scoop the same amount of ingredients for each order. Some may want customers to feel they’re getting their money’s worth, and offer a smidgeon more food than the guidelines allow. Focusing on the customer is the right approach, Chen notes, but consumes ingredients.

In contrast, restaurants with a set group of standard menu items, many of which are pre-portioned, often can reduce waste levels to less than one percent, Chen says.

One way restaurants can compensate for demand uncertainty is by carrying higher levels of inventory, notes Jonathan Byrnes, senior lecturer with MIT. The downside? Higher inventory levels increase the risk that more will have to be thrown away, especially since the food’s visual appeal is critical to most build-a-bowl restaurants.

Another option is to order from a vendor that offers expedited—even hourly—delivery. This boosts flexibility, without the need to carry additional inventory. While expensive, a restaurant likely would do this for a tiny percentage of its products.

Build-a-bowl restaurants can take a page from the playbook of many fast-fashion retailers, and use the limited amount of ingredients to help shape demand. That is, they can let customers know the restaurant is offering special ingredients, but only for a limited time. “Make the lack of availability a desirable marketing trait,” Byrnes suggests.

Larger chains can cluster restaurants close enough together that they can move



products between them. The approach is similar to one used within many hospitals. "If one floor runs short on bandages, they'll take them from another floor," Byrnes says.

The goal of these tactics? "You either give more flexibility on the supply side, or shape demand so you can serve customers with inventory that won't go bad," Byrnes says. "It's getting supply and demand right with a big dollop of imagination."

Supply chain professionals with build-a-bowl operations also can meet with their colleagues in marketing to discuss the value proposition and what to promote. The goal is to be alert for marketing campaigns that focus on the freshness of ingredients that are difficult to keep looking fresh.

Another decision that calls for input from both marketing and supply chain is the size of the containers that hold the ingredients. While a shift to larger containers reduces the frequency with which they need to be refilled, the quality of many ingredients declines over time. "There's a trade off," Chen notes.

Marketing and supply chain can jointly identify the sweet spot between efficiency and the presentation of the ingredients.

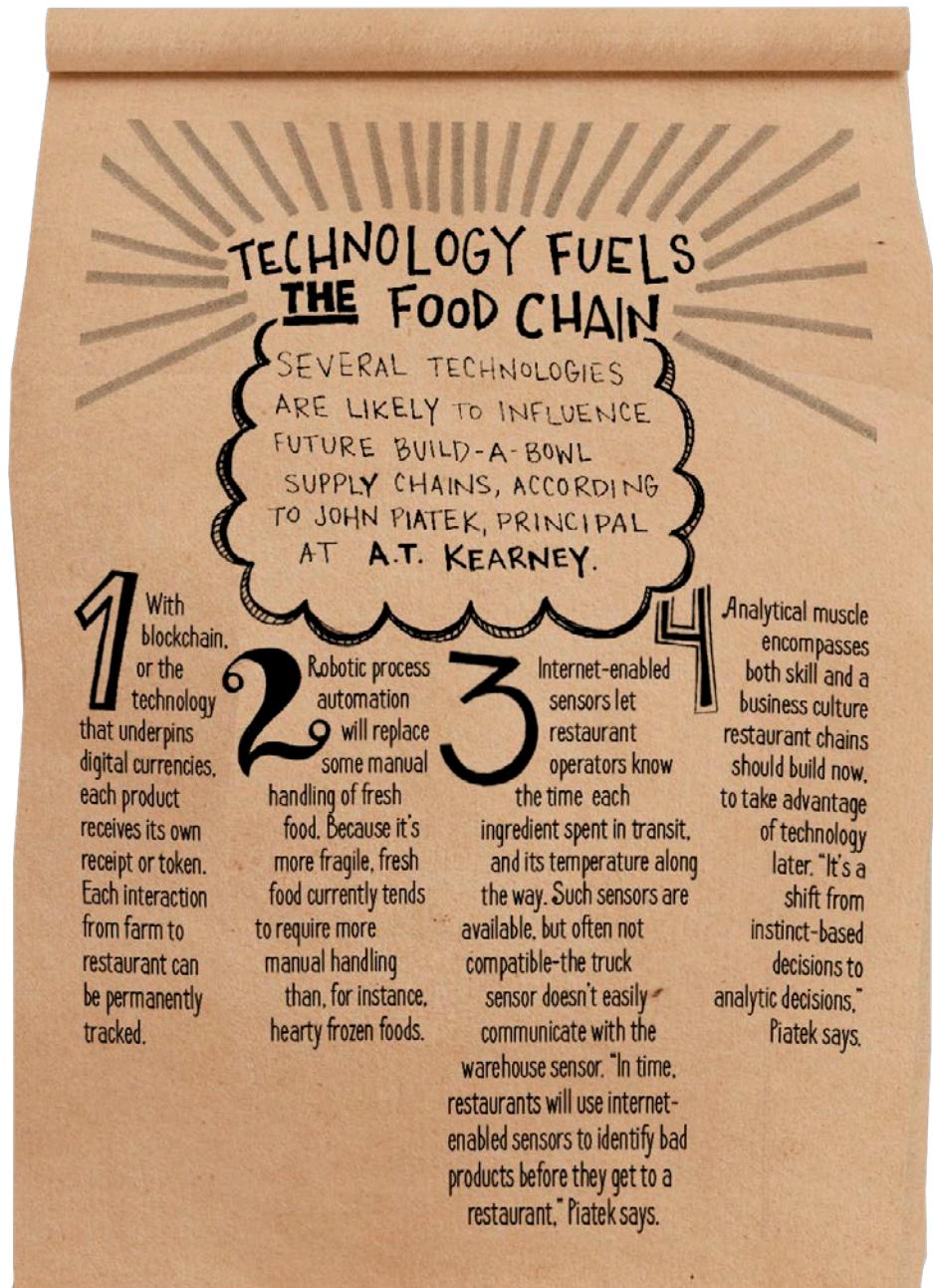
Serving Fresh, Local Ingredients

Supplier quality and the food's aesthetic appeal are paramount in build-a-bowl operations, given that consumers see the ingredients as they place their orders. "Presentation is critical," says John Piatek, principal at management consulting firm A.T. Kearney.

Many build-a-bowl restaurants feature natural or organic—and often locally grown—ingredients. "The whole story of the food is more important," Piatek says. That can mean working with numerous smaller suppliers, often within a certain number of miles from the restaurant's location.

At first glance, local supply chains would seem to offer compelling benefits. After all, shorter transportation times should translate to lower costs and fresher ingredients.

However, smaller, local firms tend to have less sophisticated quality controls, notes Dale Rogers, professor with Arizona State University. Local suppliers also may struggle to provide the depth of safety stock carried by larger outfits, or to expedite



At Sushi Fuku, customers create their own sushi rolls, bowls, or burritos. Because the restaurant does not offer any standard recipes, it can be tough to maintain demand planning and replenishment schedules.

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orders. And, managing multiple smaller firms typically is less efficient than dealing with a handful of larger providers.

Build-a-bowl operators should check that their suppliers incorporate safety steps, such as testing for listeria, recommends Katy Jones, chief marketing officer with FoodLogiQ, a provider of farm-to-fork traceability solutions. Both suppliers and the restaurant also need to jointly verify that the products supplied align with the restaurant's brand promise. If a restaurant markets itself as a provider of non-GMO foods, its suppliers should confirm that's what they offer.

Another way to boost food safety is to centralize processing, says Patrick Penfield, professor of supply chain management at Syracuse University. By having a commissary prepare the food and dispense it to a group of restaurants, fewer people come in contact with the products, lowering the risk of mishandling. A commissary also may be able to invest in safety solutions that would be unaffordable at a single restaurant.

Employee training is a critical step as well. The goal is to establish processes that prompt employees to consistently do the right things, Rogers says. One example is requiring employees to switch food bins every 20 minutes to ensure the contents remain fresh.

Chronic Tacos Plays It Safe

Chronic Tacos offers "authentic Mexican recipes with a bit of California flair," says Michael Mohammed, chief executive officer with the Aliso Viejo, California-based restaurant.

The company sources local produce for several dozen locations across the southern and western United States, as well as a handful in Canada. "We showcase all the produce," Mohammed says, "so the visual quality has to be there."

Mohammed and his team train employees to visualize the restaurant through customers' eyes. "You don't want to get robotic," he says, and potentially miss items customers might find unappealing.

Mohammed's priority when working with suppliers? "The number one thing we look at are suppliers' safety protocols and the traceability of food," he says. Mohammed and his team also leverage

Chronic Tacos' national volume when negotiating prices. "Our franchisees shouldn't be able to find a better price," he adds.

Before Chronic Tacos introduces new flavors, it ensures its distributor can offer the quality needed at all locations. The management team also weighs whether a new product will slow the line, and if it should be an addition, or replace another ingredient. "We put a lot of thought behind the decision," Mohammed notes.

Keep the Line Moving

Greater variety typically means longer lines. Customers face more decisions and employees must learn more ingredients.

Indeed, one challenge facing build-a-bowl restaurants is moving customers quickly through the line. "You can't pre-make their dishes, so you need a lot of efficiency," says Adam Narang, co-founder and president of Toast Inc., a provider of restaurant point-of-sale solutions.

Moreover, unlike customers at sit-down restaurants, build-a-bowl customers typically can't quash their hunger with bread or rolls while their dinners are prepared.

Chronic Tacos' made-to-order menu features tacos, burritos, and bowl-ritos. Employee training, local sourcing, and strong supplier relationships help the restaurant meet supply chain challenges.

Build-a-bowl restaurants can attack this challenge in several ways, Penfield notes. One is to replace some of the seating area with another line, especially if most customers take their meals with them. Another is to offer fewer ingredients.

Training also is key. At Chronic Tacos, employees help customers choose. They'll group products together, and then ask customers which of the group—say, mild, regular, or spicy salsa—they prefer. "You want to be guiding customers," Mohammed says.

Marketing materials play a role as well. By explaining how different menu items are prepared, the materials can preempt questions that would slow the line.

"It's all about communication," Mohammed says. In addition to communicating with store employees and customers, he and his team talk regularly with both franchisees and distributors. "We're dedicated to open lines of communication to meet the challenges." ■



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Experience-based education programs seek out, woo, and train the next generation of supply chain talent.

By Tamara Chapman

Nothing puts a would-be supply chain professional to the test quite like firsthand experience.

True, the college classroom provides invaluable knowledge and hones indispensable skills. But hiring managers appreciate evidence that applicants, no matter their youth, have been there, done that, and developed some field-tested savvy along the way.

Internships have traditionally provided a short-term opportunity for just that, but colleges and universities are experimenting with other ways of developing—and frankly, of romancing—supply chain talent. One option—the apprenticeship—comes right out of the history books, but educators are adapting it for modern times and priorities.

These efforts are not only timely, they are also necessary. Across the country, companies big and small are facing talent shortages in their supply chain and logistics operations. What's more, the shortages may well get more acute.

“The supply chain field is similar to manufacturing,” explains M.L. Peck of the Institute for Supply Management (ISM). “Baby boomers are retiring at an accelerated rate, and we don't have a full pipeline of new talent to replace them. That is the crux of the issue.”

Fortunately, the professionals who staff the nation's college-level supply chain and logistics programs have read the tealeaves. Working in partnership with industry advisory boards, a number of them are experimenting with new

ways to lure talent to their own programs, equip students with hands-on opportunities, and overcome the daunting barriers to entry tuition costs present. Apprenticeships offer a way to do all three.

Take the newly minted registered apprenticeship in logistics and supply chain management at Harper College in Palatine, Illinois. It's one of a growing array of apprenticeship offerings at Harper, which has comparable programs to train students for careers in banking and finance, general insurance, industrial maintenance, and precision machining. All these apprenticeships grow out of a U.S. Department of Labor initiative to connect employers with the talent they need.

COMBINING SCHOOL AND WORK

Here's how Harper's logistics/supply chain apprenticeship works: Students enroll in a two-year associate's of applied science degree program while working in a compatible job for a participating company. The employers pay a salary with benefits, allow the apprentice time off during the workweek to attend classes, and mentor the student on the job.

To ensure that mentors are equipped to optimize the opportunity, Harper College provides them training in effective instruction and motivation. Some companies have balked at the mentoring requirement, believing the task will require too much time from a valued employee needed for other work. But, says Rebecca Lake, the college's dean of workforce and



Learning supply chain theory from faculty members is an important part of Rutgers' high school junior program.

economic development, students tend to need less and less mentoring as the apprenticeship progresses.

“When registered apprentices get the first couple of semesters under their belt, they are functioning at about 75 to 80 percent,” she explains.

In addition to providing a salary and mentoring, employers pay for the student’s tuition, fees, and books. In return, the students agree, via a Harper- and employer-authored contract, to stay on the job for a specified period after graduation, typically one to two years.

“Essentially the company has this person locked in for four years,” Lake explains. That may seem paltry to some employers, she says, but often they are the same individuals given to grousing about the staying power of new college graduates.

“We used to hire only people with bachelor’s degrees, but they all left after about 18 months, because they always expected to be the vice president of the company by then,” she says, repeating a refrain she has heard many times.

That said, companies need employees with more than just staying power. In fact, they’ve told Lake that they are looking not just for people with the right combination of communications,

math, and problem-solving skills, but also for individuals who can collaborate and work with people from all different backgrounds. The curriculum has been designed accordingly. “We even dropped in a business ethics course, because many companies emphasize its importance,” Lake adds.

To ensure that classroom instruction complements the demands of the job, faculty members are encouraged to make assignments with relevance to employers. For example, a research assignment might call on the student to interview the company’s leadership about its challenges and strategies. This gives students the chance to learn about best practices while immersing themselves in the organization’s values and culture—an experience of lasting worth to both the student-employee and the employer.

In fact, the value to the employer can be measured in dollars and time. “As you move apprentices up in the company, you don’t have to reinvent the wheel and teach them about your company,” Lake explains.

For students, the advantages are both financial and psychic. The apprenticeship is friendly to the budget and low on risk. “You come out with zero debt and

two years experience,” Lake says.

What’s more, students graduate with a job and a degree that’s transferrable to a four-year institution.

The logistics/supply chain apprenticeship is in its first year, and to date, applicants to the program—who must demonstrate proficiency in several key skills—tend to be adults with work experience. “We find that it’s career changers, people who are working in part of the industry, but don’t see any way to move up,” Lake says. Still others floundered their way through previous educational and work experiences, never realizing that the supply chain offered meaningful career opportunities.

“Supply chain is a career, and it establishes a pathway to go wherever you want to go,” Lake says.

TURNING THE BEAM ON HIGH SCHOOL STUDENTS

At New Jersey’s Rutgers University, home to one of the nation’s youngest and largest supply chain degree programs, faculty are taking Lake’s message—this is a career with get go—to high school students, offering them some summer training with the possibility of a short-term apprenticeship.

It’s all part of an awareness/

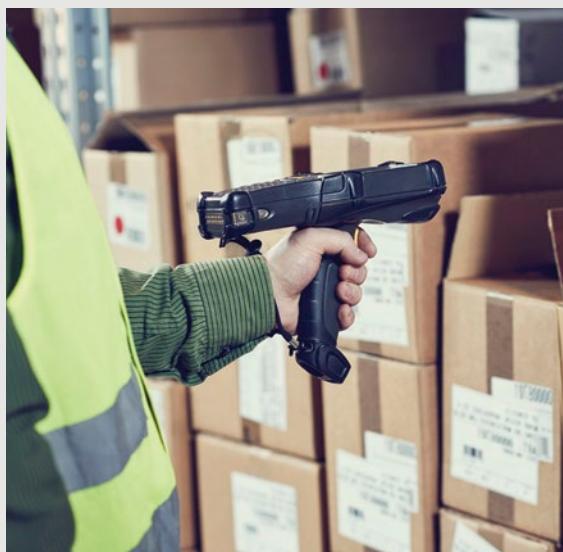


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“The big data provided by blockchain technology enhances the safety and efficiency of the food supply chain by allowing us to see an integrated flow for any item, regardless of where it came from. We can go back to the start or right to the end. This increases safety by keeping the entire supply chain visible; we're able to track products through every step of the process. It also boosts efficiency by helping us follow products all the way to the consumer, so we know what people are actually buying.”

*Dr. David J. Closs, MBA, PhD
John H. McConnell Chaired Professor of Business Administration
in the Department of Supply Chain Management at Michigan State University*



High school juniors participating in Rutgers Business School's Center for Supply Chain Management program are introduced to the discipline through hands-on learning.

talent-development campaign aimed at exposing young adults to career opportunities they've probably never imagined.

"We have a challenge to educate not just prospective students, but also parents, guardians, and other influencing groups, because supply chain is not always well known, whereas accounting, economics, and finance are," says John Impellizzeri, director of business and industry for the Rutgers Business School's Center for Supply Chain Management, which serves as an industry advisory board to the academic program.

To remedy that, the business school introduced an initiative, now in its third year, "where we essentially do our Intro to Supply Chain Management course over a 40-hour program inside eight days," Impellizzeri says. The "rising juniors" who complete the program earn three credits and the chance to apprentice/intern for a few weeks with a participating firm. That's "so they can get the experience of the theory and then go out and work with our local businesses," he adds.

"We offer the program to a group of students—largely underrepresented minority students—out of the greater Newark area," Impellizzeri says. "In 2017, we had 33 students from six different schools, each of them selected by their high school administrators."

The program is structured with hands-on learning in mind. Even during the classroom program, students are tackling the kinds of problems they can noodle over—"things they can relate to," Impellizzeri says, such as recreating a fast-food chain for french fries or redesigning the chain for the mineral-dependent iPhone.

BUILDING ENTHUSIASM

"We offer a great program in those eight jam-packed days, so students come out enthused about what supply chain management can mean for them," Impellizzeri explains. "We show even those who are interested in sports, media, and music how supply chains relate to any interest they might have."

They also see how logistics can influence everything from social justice to sustainability—areas that this generation cares passionately about.

The program is structured much like Rutgers' undergraduate program, incorporating a Supply Chain Operations Research (SCOR) model. That involves the components and key processes of the supply chain—planning for demand, choosing between making and sourcing, delivering to the customer, and reverse logistics, Impellizzeri says.

Over the eight days, students spend their mornings learning theory from

faculty members. Over lunch, they work on a case study that they present in the afternoon to their fellow students, faculty and, best of all, visiting company representatives. These representatives—from Coca-Cola or Pfizer as examples—offer their own feedback and share their company's practices and experiences. These are the same companies that offer the summer work experiences available at the end of the course.

To date, students and participating companies report that they've found the experience eye opening and rewarding. "It blows their minds," Impellizzeri says.

For their part, the participating firms have expressed eagerness to continue a relationship with the students, perhaps keeping in touch with them as they pursue their undergraduate degrees.

"These students are amazing," Impellizzeri says. "They leave this program with a virtual Rolodex of academic faculty and corporate executives who are available to them as mentors. We're building relationships that could go well beyond their academics."

One of those students, Sara Shah, who attended Newark's Science Park High School, enrolled in the Rutgers Business School in fall 2017, crediting the summer program with introducing her to supply chain's possibilities.

"Consumers don't see what goes on behind the scenes, especially when they're kids," she told the school's media team. "So when you learn about the business relationships, it's eye-opening."

"I want to understand business, and I feel that studying supply chain management would give me that understanding," Shah adds.

One of three summer alums to enroll in Rutgers in 2017, Shah is emblematic of the participants and offers the business community hope that their talent-development challenges are being addressed.

"If I could put a little chip inside of these students so I could track them, I would," Impellizzeri says. "Some of them are so amazing, and we don't want to lose them." ☆

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IT Toolkit | by Merrill Douglas

Better Routing Takes Root

Weatherford Farms delivers beauty to Greater Houston day after day. Founded in 1927, the third-generation family-owned business sells flowering plants to retailers, landscapers, and interior plantscapers throughout the metropolitan area.

For many years, Weatherford Farms relied on a veteran driver to plan its deliveries, essentially building routes in his head. That process was less than efficient, especially during the peak holiday season.

In 2011, Weatherford Farms implemented the Paragon Routing and Scheduling System from Paragon Software Systems of Dorking, U.K. and Frisco, Texas. With help from this software, Weatherford Farms now routes its deliveries faster with far less effort than before, helping the business provide better service.

Weatherford Farms grows most of its flowering shrubs, tropical foliage, and seasonal and holiday specialty plants on its own property, just outside Houston. It employs 50 people and uses seven company-owned trucks to deliver plants within a 150-mile radius.

Back in 2011, the information needed to route those trucks all lived in the memory of one employee, a driver who had worked for Weatherford Farms for more than 40 years. Five evenings a week—and six evenings during the holiday season—he collected the day's orders and scheduled them for delivery one or two days later.

“He knew all the customers, the locations, and how to approximate order sizes,” says Bridget Weatherford, co-owner of Weatherford Farms. “He was excellent at routing most of the time.”

But toward the end of the year, when order volumes exploded, the routing puzzle became almost too much for even the most knowledgeable brain.

“The holiday season is tricky, in that our drivers are trying to make upwards

By switching from a manual to an automated routing and scheduling system, flowering plant seller Weatherford Farms puts the petals to the medal.



Weatherford Farms grows most of its shrubs, foliage, and seasonal and holiday specialty plants outside Houston, Texas.

of 20 stops, covering a lot of miles,” Weatherford says. “They face demanding back door time constraints, and the trucks are at 100-percent capacity.”

It often took the router more than three hours to plan those routes. “And we could still end up with trucks that were too heavily loaded,” Weatherford says. Then the company had to adjust the routes and move product from one truck to another, holding up drivers at the start of their day.

Not only was this process inefficient, it was also unsustainable. While the retired driver who managed the routing did a fine job, he was getting on in years and not in the greatest of health, Weatherford says. The day would come when he could no longer take charge of the routing. Weatherford Farms would then have two choices: tap one of its current drivers to take over, adding hours to that person’s daily shift, or take human labor out of the equation.

Flexible and Cost Effective

To increase efficiency and provide for the future, the owners of Weatherford Farms decided to automate their routing process. They chose Paragon’s solution because it’s flexible and cost effective.

“Other solutions were too complicated and expensive, or they lacked the sophistication we needed to include

delivery time constraints and the various sizes and shapes of the plants,” Weatherford says.

Management at Weatherford Farms worked with Paragon’s support manager, Mark Massey, to implement the software, collect the necessary data, and configure the system to match the company’s operations. Configuration accounts for factors such as customers’ delivery windows and traffic congestion patterns.

“One key thing users have to do to make the Paragon solution work is to collect the data and make sure it’s set up in a way that realistically represents their operation,” says Will Salter, Paragon’s president and CEO.

For example, if a truck’s first stop of the day is in downtown Houston, 15 miles from Weatherford Farms, the system will show it arriving at 9 a.m. because of traffic congestion. “Whereas, if I send the truck 15 miles south, away from downtown, the system will show it arriving at 8:15 a.m.,” Weatherford says.

Another important step was to capture product information. “We provided Mark Massey with approximate square footage for all the different plants we carry, along with our truck capacity and how the plants were loaded in there, in tiers,” Weatherford says. “We also

provided him with customer hours so that Paragon could take that into consideration as it was computing the route.”

Weatherford Farms started using the Paragon system to route its deliveries toward the end of 2011. Today, Weatherford and several of her employees know how to run the system, ensuring operations don’t come to a halt if someone is ill or busy elsewhere.

Quicker Routing

Although Paragon can link its solution to other management systems, companies often use simple flat files to move data on customers’ orders into the routing system. Weatherford Farms extracts that data from its sales system in the form of a spreadsheet and then imports that into the Paragon solution. “Once that spreadsheet is imported into the Paragon software, it can calculate each delivery and how much space it will take up in the truck,” Weatherford says.

The switch to automated routing made Weatherford Farms much more efficient. Instead of needing three hours or more to run routes in the busy holiday season, the Paragon system takes no more than 30 minutes.

Like the human router, the Paragon system occasionally makes an error in matching orders to available space on trucks. It’s simply impossible for every



In 1959, family-owned Weatherford Farms relied on manual operations for truck routing (left). In 2011 (right), it implemented an automated process to deliver plants within a 150-mile radius using seven company-owned trucks.

azalea tree or pot of tulips to exactly match the dimensions in the database, which the system uses when building loads.

“I might end up with a truck that’s a bit overloaded now and then,” Weatherford says. “But given the extreme variation of plant sizes that we have, the system does a fantastic job.”

Gas Money

Since staff at Weatherford Farms never analyzed the efficiency of their routes in the past, it’s hard to say if Paragon’s software has reduced fuel costs through better planning. But that seems to be the case.

“Before we went with Paragon’s system, drivers complained about arriving at a site only to find another driver already there,” Weatherford says. While trying to make customers’ delivery windows and not overload the trucks, the human router found it impossible to keep drivers from crossing paths in an inefficient way.

Due to capacity constraints, even Paragon sometimes needs to send more than one truck to the same part of town, Weatherford says. But there’s less of that. So it’s safe to assume that Paragon’s software is helping the company save money on gas, she says.

Weatherford Farms has no current plans to extend its use of Paragon’s

system or employ new features. But there’s a good deal more the software could do if Weatherford and her team someday need new capabilities.

For example, if the company were to expand its operations, Paragon could route deliveries from multiple locations with one instance of the software. “It would have the ability to load in orders for a day, look at the depots that can make those orders, and also make sure that the right stock is in the right place,” Salter says. “And then it could do a multi-depot run.”

The routing system could also let Weatherford Farms tighten its delivery windows to one hour, or add proof of delivery, transmitting that information from the field to the transportation

office, Salter says. Weatherford Farms could also install vehicle tracking systems on its trucks and transmit that data back to Paragon.

“For example, they could run a Paragon plan, upload it to a tracking system in the truck, and then compare the planned route against what the drivers are actually doing,” he says.

Staff could use the information to advise customers when deliveries were running late, to counsel drivers who weren’t completing routes as scheduled, or to uncover drive time estimates in the software that needed to be adjusted.

While Weatherford Farms has no current plans to invest in any of those functions, Bridget Weatherford is happy with the system just as it is. ■

HOW THE BENEFITS BLOOM

Transplanting manual routing to a software system netted Weatherford Farms the following benefits:

- Time needed to route trucks in the busy season cut from three hours to 30 minutes.
- Less chance of overloading trucks.
- Routes are more efficient.
- Several employees can share routing responsibilities.

3PL

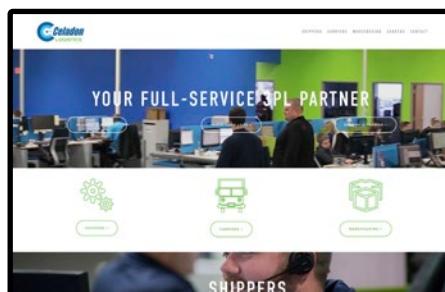


Veritiv • www.veritivcorp.com

Veritiv™ Corporation (NYSE: VRTV) is a North American leader in business-to-business distribution. A Fortune 500® company, Veritiv provides logistics and supply chain management solutions, packaging, facility solutions, print and publishing products and services.

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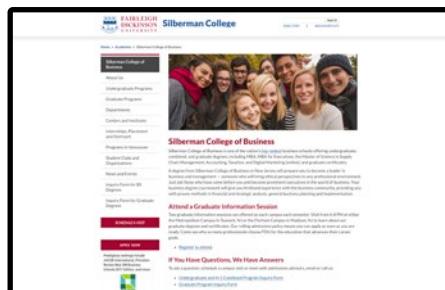
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EDUCATION

**Fairleigh Dickinson, Silberman College of Business
view2.fdu.edu/academics/silberman-college**

Fairleigh Dickinson's Silberman College of Business is currently recruiting a 2018 Spring cohort at the Florham Campus. In just 16 months, an MS degree in Supply Chain Management from Silberman College of Business will equip you with the technical and managerial skills to help improve the efficiency and effectiveness of business operations. Whether you are starting off in your career or looking to make a career transition into SCM, an advanced degree such as an MS in SCM will train you in critical aspects of SCM and will enable you to take advantage of the growing opportunities in the field.



IN THIS SECTION:

Education - Food Logistics

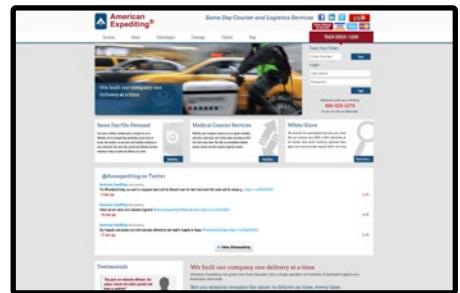


University of Washington, College of Engineering
www.supply-chain-transportation.uw.edu

The Supply Chain Transportation & Logistics Master's degree gives you the technical skills and big picture perspective to separate yourself from the pack. Learn from world-class faculty and industry leaders through a work-compatible online curriculum housed at the University of Washington's premier College of Engineering, ranked 15th in public engineering graduate schools by *U.S. News & World Report*. Gain an edge in your transportation and logistics career.

American Expediting • www.amexpediting.com

American Expediting has grown over three decades—from a single operation to hundreds of dedicated logistics professionals nationwide. But its mission remains the same: to deliver on time, every time. Couriers are equipped with two-way communications devices and GPS, and the on-time performance metric is more than 99 percent. From messengers, couriers with cars, vans and trucks, to next-flight-out and direct drive shipments, to warehousing, distribution, fulfillment, and more, American Expediting's solutions are custom-tailored to your exact requirements, schedule, and budget.



FOOD LOGISTICS



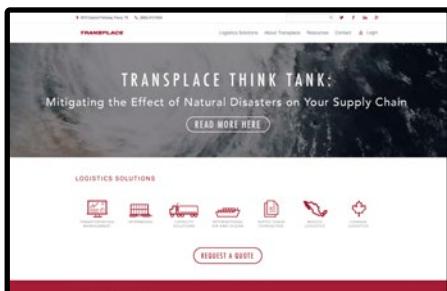
Lynden • www.lynden.com

Over land, on the water, in the air—or in any combination—Lynden has been helping customers solve transportation problems for almost a century. Operating in such challenging areas as Alaska, Western Canada and Russia, as well as other areas around the globe, Lynden has built a reputation of superior service to diverse industries.

Syfan Logistics • www.syfanlogistics.com

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Transplace • www.transplace.com

Transplace is a North American non-asset based logistics services provider offering manufacturers, retailers, chemical and consumer packaged goods companies the optimal blend of logistics technology and transportation management services. The company is the premier provider of managed transportation, consulting & TMS solutions; and intermodal, truck brokerage, and cross-border trade services. With operations centers located throughout North America, Transplace delivers integrated solutions tailored to meet in-country and cross-border supply chain needs.

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FREIGHT FORWARDING



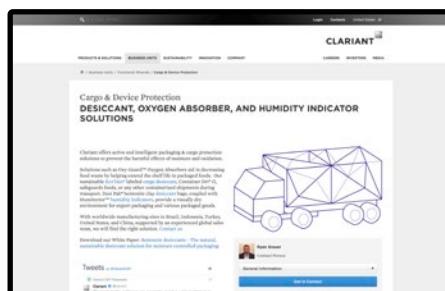
Freight Logistics • www.freightlogistics.com

Freight Logistics is an IATA-accredited air forwarder and licensed NVOCC operator utilizing a network of its own offices and strategic global partnerships to provide reliable air and ocean freight services worldwide. As a leading provider of end-to-end supply chain and transportation solutions for nearly two decades, Freight Logistics has earned a reputation as being a professional and accountable freight solutions provider. With broad capabilities, extensive experience and global reach, make Freight Logistics your trusted air and ocean freight partner.

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IN THIS SECTION:

Ocean - Trucking

OCEAN



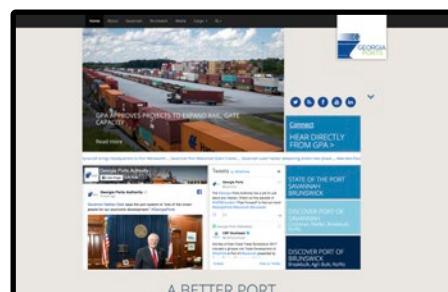
COSCO Shipping Lines (North America) Inc. • www.cosco-usa.com

China Ocean Shipping (Group) Company (COSCO), the national flag carrier of the People's Republic of China, is one of the world's premier full-service intermodal carriers. The company utilizes a vast network of ocean vessels, barges, railroads, and motor carriers to link the international shipper with the consignee. COSCON's 20 main-line services connect over 100 ports worldwide to reach more direct ports of call than any other carrier in the world, with weekly, fixed-day service to many destinations. The AUM-Pendulum Service's direct ports of call include Tokyo, Qingdao, Shanghai, Yantian, Hong Kong, Charleston, Norfolk, New York, Boston, Valencia, Naples, Genoa, and Barcelona.

PORTS

Georgia Ports Authority • www.gaports.com

The Georgia Ports Authority (GPA) includes the Port of Savannah, the Port of Brunswick, the Bainbridge Inland Barge Terminal, and the Columbus Inland Barge Terminal. Its home page offers history and background about the Ports Authority, a port directory, shipping directory, GPA statistics, maps, photos, and more.



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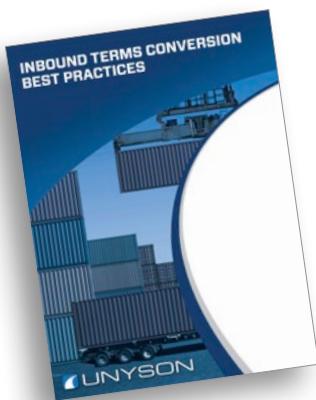
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WhitePaperDigest

Industry experts amass supply chain management best practices and skill sets, and invest in new research and evaluation tools. Now you can benefit. *Inbound Logistics* has selected this collection of whitepapers that will give you a jump on important supply chain issues. For more information on any of these whitepapers, visit the Web sites listed below.



Unyson

TITLE: *Inbound Terms Conversion Best Practices*

DOWNLOAD: <http://bit.ly/UnysonBestPractices>

SUMMARY: Many companies remain unaware of just how much their inbound freight costs them because these charges are “buried” in the prices they pay for the goods. “Collect” payment terms allow companies to pay for their own inbound transportation costs rather than their vendors. This not only gives a company greater control over their network—often resulting in greater visibility, tracking, and monitoring—but is frequently more cost-effective as well.

enVista

TITLE: *Think Like a Big Shipper*

DOWNLOAD: <http://bit.ly/enVistaShipperWP>

SUMMARY: Many small and mid-sized shippers suffer from the mindset of “not Walmart.” This approach assumes that size and sophistication are necessary to achieve meaningful transportation costs savings. However, shippers of all sizes can always develop and implement strategies that have a return on investment. You don’t have to be a big shipper to obtain similar savings—simply think and act like one. Read this whitepaper to learn more.

SEKO Logistics

TITLE: *Supply Chain Visibility*

DOWNLOAD: <http://bit.ly/SEKOWp>

SUMMARY: The emergence of supply chain software providers in the cloud that span the entire supply chain is happening now. This shift will provide smaller hard goods manufacturers and distributors more efficient and collaborative supply chains, which ultimately lower cost and increase profitability.





Hub Group

TITLE: *The Correlation Between Service And Savings In The Supply Chain*

DOWNLOAD: <http://bit.ly/HubGroupWP>

SUMMARY: To increase savings, business leaders must concentrate on the total cost of the supply chain, rather than just transportation prices. The right company acts like a business partner and takes into consideration transportation, operations, and inventory costs to help a network operate more efficiently. What is your transportation and logistics provider doing for you? What should they be doing? Download this paper to find out.

Amber Road

TITLE: *4 Keys to Digitizing Your Global Supply Chain*

DOWNLOAD: <http://bit.ly/AmberRoadWP>

SUMMARY: Global trade is a fast, complex environment that many organizations struggle to keep up with. Its ever-changing nature means that your supply chain processes and technology must transform just to keep up the pace. Digitization enables full transformation. Digitizing your supply chain enables four key methods of transformation leading to value, including: collaboration, automation, analytics, and flexibility. Download this eBook today and discover how your organization can yield value through supply chain digitization.



Purolator International

TITLE: *Winning the Battle for eCommerce Last-Mile Excellence*

DOWNLOAD: <http://bit.ly/PurolatoreCommerce>

SUMMARY: Amazon is driving consumer delivery expectations. Their delivery services are not just the gold standard, they're *the* standard by which other retailers are judged. Amazon is the reason people now think 2-day-and-under delivery times are no longer expedited service – they're expected service. So what's a retailer not named Amazon to do? Make your last mile your best mile. Last-mile service is truly the make-or-break part of a transaction. When a customer is either pleased with delivery services or disappointed if something goes wrong, the appreciation (or the blame) goes not to the logistics provider but to the retailer. There are a host of options and strategies to improve last-mile service, but to make your last-mile service a true competitive advantage, you'll need two things: technology and the right logistics provider. Find out more by downloading this free whitepaper.



C3 Solutions

TITLE: *Purchasing and Implementing a Yard Management System*

DOWNLOAD: <http://bit.ly/C3SolutionsYMS>

SUMMARY: You will find everything you need to know about purchasing and implementing a Yard Management System in this practical guide. It aims to help inform the decision to implement a YMS—from investigation to scoping to vendor selection and implementation. The whitepaper covers: who needs a Yard Management System, specific areas where YMS can optimize operations, what to look for when evaluating a YMS, vendor evaluation checklist, ROI considerations, and a blueprint for successful implementation.

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Honeywell Safety and Productivity Solutions

extended its driver-focused enterprise software solution to enable truck drivers to quickly complete electronic logs and conduct vehicle inspections using a mobile device. The software runs on Android-based devices, including Honeywell's mobile computers, and helps companies reduce violations and improve safety and work process accuracy. The solution was developed in collaboration with fleet management solutions provider **Omnitracs**.

//Services//

Linden Bulk Transportation, a subsidiary of **Odyssey Logistics & Technology**, added a new facility in Joliet, Illinois, expanding its bulk transportation footprint. The new location allows the logistics solutions provider to offer additional capacity and services in the greater Chicago and Midwest region. The facility provides access to all major roadways and railways throughout the region. Odyssey's bulk transportation businesses include service for over-the-road tank truck, ISO tank for domestic and international shipments, and rail transfer services.

DHL opened a \$10-million international air shipment facility at Chicago's O'Hare International Airport. The new 54,000-square-foot DHL gateway, which expands existing operations at O'Hare, features an on-site U.S. Customs operation for faster processing of inbound and outbound international shipments for the Chicago area and other Midwest markets. In addition to accommodating future shipment volume growth, the expansion of operations supplements DHL's U.S. network capacity to expedite package shipments during peak seasons.

UPS is constructing a package distribution facility in Aurora, Colorado, which will create more than 700 jobs when fully operational. A portion of the nearly 360,000-square-foot building began operating in time for the holiday shipping season. The \$90-million package operations hub features advanced scanning and sortation equipment for increased flexibility to route packages through the UPS network. The new operations technology also helps power the rollout of the UPS Saturday ground delivery and pickup service that began in April 2017.

► Cold chain and protective packaging manufacturer **ACH Foam Technologies** now offers DuraTherm PLUS+, a cold chain shipping solution that maintains payload temperatures between 35.6 to 46.4 degrees F for a 24-hour delivery window. Designed for pharmaceuticals and other temperature-sensitive products, the packaging kit includes the DuraTherm PLUS+ cooler, inner payload packaging, gel pack refrigerants, outer corrugated shipping box, and packout instructions.



Passive containers for temperature-sensitive transport are now available directly from **Lufthansa Cargo**. High-performance thermal containers supplier **va-Q-tec** and the cargo airline are cooperating in the passive temperature-controlled container market. Due to the new cooperation, pharmaceutical goods shippers can rent the va-Q-tec containers from the cargo airline's numerous stations worldwide.

//Transportation//

Freight forwarder **Flexport** launched chartered flights from Hong Kong to Los Angeles in November 2017 to ease the holiday cargo shortage for shippers. Chartered freighters will become an ongoing Flexport service in 2018, opening up a new revenue stream for the technology-based company, which entered the airfreight market in 2014.

CN and **Norfolk Southern (NS)** launched a joint interline service initiative that has reduced transit times by one to two days for carload traffic between Western Canada and NS destinations in the eastern United States. The interline service allows freight to bypass traditional interchange points in Chicago and instead use more efficient existing CN and NS routes. The service has reduced transit times by up to 48 hours, providing shippers faster delivery to final destinations.



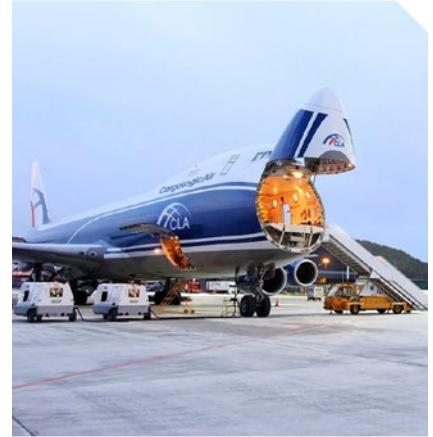
◀ **Rite-Hite** introduced a door control box that addresses worker safety and provides real-time data. New door controls feature a 7-inch LCD touch screen, instant data, and multiple languages. The graphic user interface by Rite-Hite uses low-voltage connections from the larger junction box near the motor to provide access to door settings without the risk of arc flash, eliminating the need for workers to wear personal protective equipment when making adjustments or troubleshooting.

Evergreen, COSCO, and YML teamed up to offer an express service on the North Europe-Mediterranean trade. The new joint operation, called Europe-Med Express (EMX), utilizes five 4,250-TEU ships; one each provided by Evergreen and YML and the remaining three by COSCO. The new weekly service provides a direct connection from North Europe to the Mediterranean, particularly to/from Morocco, Turkey, Israel, and Egypt and is open to all types of cargo, including reefers and special containers.



▲ **Mitsubishi Caterpillar Forklift America**, the provider of Jungheinrich lift trucks and narrow-aisle products in the United States, Canada, and Mexico, introduced the 5,500-pound capacity Jungheinrich ERE 125 / 225 / 225DP pallet truck. Designed for loading and unloading trailers, the electric-powered pallet truck combines the maneuverability of a stand-on forklift with the compact design of a walkie-end rider. An optional automated function allows the operator, with a touch of a button, to raise the forks to a preset height to optimize lift time and minimize adjustments.

AirBridgeCargo Airlines (ABC) introduced a new freighter call for Belgium's Liege Airport. Starting with its winter schedule, ABC will gradually increase its cargo capacity up to 12 flights per week, creating more opportunities for shippers in Asia, North America, and Europe, using its modern Boeing 747 fleet that provides up to 143 tons of capacity.



American Airlines launched a daily service between Los Angeles and Beijing, providing further opportunities to connect cargo traffic between Asia and the Americas. Inbound from the United States, cargo from shippers is expected to include electronics, medical and pharma products, perishables, and e-commerce shipments. Outbound from China, automobile parts for hybrid cars, liquid crystal displays, and TV and PC parts are expected to be the main goods.

▲ All-cargo airline **CargoLogicAir (CLA)** added Tel Aviv to its network of scheduled freighter operations. CLA now operates a weekly Boeing 747-400F service to Tel Aviv via Germany's Hahn Airport. The range of cargo on this route includes pharmaceuticals, high-tech products, aerospace components, and perishables.

//Technology//

Logistics provider **GEODIS** rolled out *Neptune*, a new web portal that simplifies its road transport-related activities to offer more transparency, agility, and simplicity to supply chain stakeholders. *Neptune* enables real-time coordination of transport activity, reporting, and analysis of key performance indicators. Shippers can manage all their activities from a single platform: scheduling deliveries, planning resources, reporting incidents and faults, and accessing transport documents.

Technology solutions provider **SAP** introduced new capabilities for software *SAP S/4HANA*, enabling shippers to optimize operations with responsive, real-time digital supply chains. These new capabilities support Demand-Driven Material Requirements Planning (DDMRP), a supply chain planning and execution methodology, and have received certification from the Demand Driven Institute. DDMRP support is now available with the August 2017 release of *SAP S/4HANA*. DDMRP capabilities are also available in *SAP Integrated Business Planning*, in conjunction with SAP partner **Camelot ITLab**.

Logistics technology provider **Kuebix** launched *Kuebix Shipper*, a free, multi-mode transportation management system (TMS). *Kuebix Shipper* lets logistics managers rate, book, track, and manage shipments across LTL, truckload, and parcel carriers. The free TMS gives shippers direct access to their negotiated carrier rates and the ability to take advantage of the community of carriers offering spot/volume quotes for shipping needs.

INTTRA, an electronic transaction platform, software, and information provider for the ocean shipping industry, unveiled two cloud-based enhancements. The first is a new *Container Forecasting and Allocation Solutions Tool* (C-FAST) for freight forwarders and NVOCCs that matches the forecast of their customers' anticipated container volume to carrier capacity availability. The second is an enhanced version of its *Ocean Schedules* offering that optimizes shipment planning for ocean supply chain professionals.

//Products//

The new **BEUMER** bag-in-bag system quickly packs filled paper bags individually or in groups with a weather-resistant plastic film, protecting the contents from moisture, dust, insects, and other environmental conditions during storage and transport. The BEUMER bag-in-bag is designed for inline packers with a capacity of up to 800 bags per hour. The product integrates into existing filling and packaging systems.

Inther Logistics Robotics introduced the Automated Document Inserter (ADI), a machine that fully automates the insertion of A4 documents into cartons. The ADI not only prints and inserts documents, but also buffers and folds them. This folding mechanism allows the system to support the e-commerce-driven trend toward smaller carton sizes.



▲ Container line **Hapag-Lloyd** purchased 3,700 Star Cool Integrated containers as part of its reefer investments from Maersk Container Industry. Of these, 1,000 Star Cool units will be chilled by the environmentally friendly R513A refrigerant system. Hapag-Lloyd selected Controlled Atmosphere (CA) technology for 1,000 Star Cool Integrated containers to expand its ExtraFresh and ExtraFresh Plus services. The CA technology slows the ripening of fruits and vegetables, allowing them to be transported over longer periods and reach their destinations in optimal condition.

◀ **Virgin Atlantic Cargo** launched Virgin Australia's daily Melbourne-Hong Kong services in November 2017 to meet growing demand for cargo capacity on the route. The extra capacity provided by the new daily service supports the peak perishables season in Australia as well as thriving e-commerce and courier business from Hong Kong. Other regular shipments include garments, shoes, electronics, vitamins, milk powder, and meat.



CALENDAR

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FEB
6

Informa Exhibitions

Cargo Logistics Canada

cargologisticscanada.com | Vancouver, Canada | FEB 6-8, 2018

AUDIENCE: Stakeholders in import, export, and domestic supply chains

FOCUS: Air cargo trends; forecast for ocean carriers and what Canadian/North American supply chains should be preparing for; technology and the supply chain workforce; future of the retail supply chain; the autonomous supply chain's practical and ethical dimensions

CONFERENCES

JAN 22-24, 2018 Atlanta, Ga.
SMC³

Jump Start 2018

smc3jumpstart.com

AUDIENCE: Logistics and transportation professionals from carriers, shippers, logistics service providers, and technology verticals

FOCUS: Analyzing supply chain challenges and prospects; trends in reverse logistics; supply chain collaboration; transportation contract law; real-time visibility in LTL transportation

JAN 22-26, 2018 Orlando, Fla.
PEX Network

OPEX Week: Business Transformation World Summit 2018

opexweek.com

AUDIENCE: Operational excellence and business transformation executives
FOCUS: Building an operational excellence program from the ground up; shifting focus from cost stripping to customer-centric growth opportunities; leveraging continuous improvement to boost customer experience; integrating global manufacturing, supply chain, and operational assets

JAN 29-31, 2018 Dallas, Texas
National Industrial Transportation League (NITL)

2018 Transportation Summit

bit.ly/NITL2018

AUDIENCE: Logistics professionals
FOCUS: Navigating the intergenerational workforce; rail, ocean, and highway freight transportation issues; trends in rail and ocean transportation; highway transportation update; energy outlook

FEB 4-6, 2018 Sea Island, Ga.
Georgia Ports Authority

Georgia Foreign Trade Conference

gaforeigntrade.com

AUDIENCE: Senior-level shippers, maritime executives, senior managers, and decision-makers

FOCUS: Challenges facing shippers, carriers, ports, terminals, and the maritime community; legislation and new technologies impacting global trade; current and future market conditions and growth opportunities

FEB 25-28, 2018 Phoenix, Ariz.
Retail Industry Leaders Association (RILA)

Retail Supply Chain Conference 2018

bit.ly/RILA2018

AUDIENCE: Stakeholders in the retail supply chain; logistics, supply chain, and distribution professionals

FOCUS: Keeping pace with a changing retail landscape; omnichannel fulfillment trends; reinventing the retail supply chain; leveraging analytics for supply chain advantage

MAR 6-8, 2018 Atlanta, Ga.
Worldwide Business Research

LogiMed US 2018

logimedusa.wbresearch.com/about-us

AUDIENCE: Supply chain vice presidents and directors from medical device and diagnostics manufacturers

FOCUS: Best practices to improve the end-to-end supply chain and minimize cost in today's healthcare environment; cost optimizing the supply chain; advancing the global supply chain; how manufacturers and providers are working together to advance the supply chain and improve patient care

MAR 11-13, 2018 Tampa, Fla.
International Warehouse Logistics Association (IWLA)

2018 IWLA Convention & Expo

bit.ly/IWLA2018

AUDIENCE: Warehouse logistics stakeholders

FOCUS: Motivating employees for continued growth; effective warehousing strategies; the latest in warehousing innovation; warehouse law; how to recruit, train, and retain today's workforce; optimizing efficiencies to meet operations challenges

MAR 26-28, 2018 Orlando, Fla.
Express Carriers Association (ECA)

22nd Annual MarketPlace 2018

expresscarriers.org/marketplace

AUDIENCE: Supply chain and logistics professionals

FOCUS: Forming logistics partnerships; finding regional and specialized carriers that can provide a viable supply chain alternative; new technologies and transportation services

APR 9-12, 2018 Atlanta, Ga.
MHI

MODEX 2018

modexshow.com

AUDIENCE: Manufacturing and supply chain professionals

FOCUS: How Industry 4.0 and the Industrial Internet of Things are impacting supply chains; exploring the latest equipment and technology solutions from more than 850 providers; futureproofing your company's supply chain

APR 18-19, 2018 Atlanta, Ga.
Terrapinn

Home Delivery World 2018

bit.ly/homedelivery2018

AUDIENCE: Retail logistics and supply chain professionals

FOCUS: The latest technologies and innovations impacting home delivery; strategies for optimizing product fulfillment, delivery, and customer satisfaction through supply chain, logistics, warehousing, and transportation operations; trends in delivery operations

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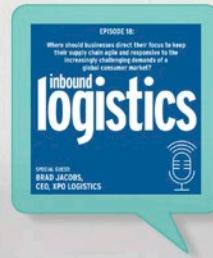
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Trucking Plugs In

Automaker Tesla accelerated into the trucking industry, unveiling the Semi, its first electric big rig, which will hit the market in 2019. Shippers and carriers are reserving their trucks to gain AI and sustainability benefits.

Tesla Semi buyers' initial plans

Short routes, such as between ports and nearby warehouses, or warehouses and stores

Shipments to wholesalers **within 150 to 200 miles** of brewery locations

Shuttle runs and **same-day customer deliveries** in major U.S. cities



Time it takes to go from 0 to 60 miles per hour while hauling 80,000 pounds of cargo

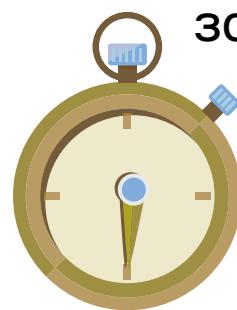


Less than 2kWh/mile
Energy consumption per truck

\$20,000
 Cost to reserve the Semi. Tesla raised the initial reservation price from \$5,000.

\$150,000
 List price for Semi with 300-mile range—comparable to a diesel-powered big rig, which can run up to 1,000 miles on one full tank

\$200,000
 List price for longer-range Semi, which can go 500 miles per charge



30 minutes

Time it takes to charge up to 400 miles when using a high-speed Megacharger

Companies that have reserved the Semi

- ✓ Anheuser-Busch - *preordered 40*
- ✓ DHL - *preordered 10*
- ✓ J.B. Hunt - *preordered "multiple"*
- ✓ Meijer - *preordered 4*
- ✓ PepsiCo - *preordered 100*
- ✓ Walmart - *preordered 15*

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