

WHITE PAPER

Distribution and Logistics Redefined: Responding to Digital Disruption

The Supply Chain is Accelerating Fast. Are You Keeping Up?

Manufacturing and retail transformations, technology disruptions and digitalization of data have redefined the roles of distributors and third party logistics (3PLs). The rate of change is accelerating, driving the transformational initiatives of distributors and 3PLs to stay relevant, create differentiation and execute long-term growth strategy. It's not just about the change or the expansion of services any longer, but about how fast and flexible their services can be delivered as the manufacturing and retail industries are reinventing themselves, too. Additionally, technology, machine learning and the tightening workforce are now front and center in the CEO agenda. In fact, the word "blockchain," in particular, has almost the same effect as the word "Amazon."

With the rate of change accelerating, is your organization:

- Ready to tackle the accelerating disruption of unified commerce?
- Taking advantage of innovative technology and progressive best practices?
- Monetizing your supply chain data to grow your business and market share?

This white paper provides guidance to the disruptions that are quickly and directly impacting distributors and 3PLs around the world, as well as suggested roadmaps that'll help identify opportunities and navigate changes.



The Future State of Distribution and Logistics

In the future of distribution and logistics, there won't be anymore 'service' providers. Distributors and 3PLs will be seamlessly infused into the overall digital supply chain ecosystem. When manufacturers execute their retail disintermediation strategies to reach millions of customers, or when retailers go all the way to push their unified commerce and when millions of customers expect their personalized, on-demand deliveries, it's the distributors and 3PLs that fill the gaps for the manufacturers and retailers to make sure the customers' expectations are fulfilled. Doing this requires a full orchestration of supply chain and logistics at the speed that is as fast as the internet. Autonomous vehicles, robotics picking, cross-enterprise inventory coordination, RFID-enabled visibility, distributed order management, blockchain platform for transaction and security and the rest of the Internet of Things (IOT) will be crucial to achieve the future state.

The size of the prize is too big to ignore. There's \$6.6 trillion of value at stake in the distribution and logistics industry (source: JDA Value Engineering). Leading distributors and 3PLs will capitalize on the disruptions to reap these opportunities. For many of today's distributors and 3PLs, internalizing these forces of change will be a shock to the system. A considerable number will become obsolete, making way for the innovators that will enter the market prepared to act quickly and decisively – and most importantly, prepared to think big. In fact, the scale and pace of these coming changes is going to make most of the companies in these industries “unrecognizable” in a matter of five years or less.

Leading distributors and 3PLs will continue to make headlines and redefine their value propositions, including companies such as Maersk, who recently announced their partnership with IBM to exploit blockchain technology; or RS Components, that provide next-day shipments for electronic components to engineers and professionals around the world. Others will be absorbed or become obsolete. The entire industry is facing an inflection point. It's growing by size, yet shrinking by number.

Five Disruptions Shaping the Digital Transformation in Distribution and Logistics

1. Digital Transformations in the Manufacturing and Retail Industries

Digitalization is transforming every aspect of business across all industries, particularly impacting the distribution and logistics industries. Healthcare providers expect products, combined with services, to be delivered all the way to the point of care within the hospital, not just to the receiving department. Automotive manufacturers don't want to carry the burden of carrying raw material components, so distributors and logistics providers need to manage and deliver the right components just-in-time for production. As retailers are advancing their unified commerce strategies and offering a myriad of promises to consumers, including same or next-day delivery, free returns and personalization, often distributors and logistics providers serve the supply chain services behind-the-scenes to represent the retailers' brands in the market. As manufacturers and retailers continue to transform their strategies, the next challenge distributors and logistics providers face is that they need to accelerate their ability to deliver their services.

At the BG Strategic Advisors Supply Chain Conference, CEOs agreed that as manufacturers and retailers grow their online channels, logistics providers must become an extension of manufacturing and retail brands and provide personalization, kitting and other value-added services that they can't profitably and quickly enough to fulfill on their own.

2. Consumerization of B2B Services

The consumer buyer experience is transforming the way the B2B buyer experience is evolving. Logistics providers need to start considering how B2B buyers think about their wants and needs. Buyers today want everything to be visible via mobile app and website, on-demand, next day delivery, personalized and customized, all at no extra cost. The future of logistics isn't just about next day/same day delivery, it's about personalization, options and on-demand. And top logistics companies will be able to provide these on-demand expectations. According to Gartner, “3PL buyers today want a competitively priced, comprehensive set of services that are consistently integrated and reliably available.” Everything in logistics is accelerating though, which is a challenge providers face.

For example, Grainger, the largest industrial distributor in the United States and number 3 in the world with revenue exceeding \$10 billion, has seen online sales continuously become the larger contribution to the company's total sales. In 2015, 41 percent of total sales came from online channels, the figure jumped to 60 percent in 2016, and CEO D.G. Macpherson predicted that the figure will easily be 80 percent by 2022. Its online channels in Germany, Japan and United Kingdom alone grew by 35 percent in 2016.

“We’re really focused on the customer experience, and digital is a big part of it,” Macpherson said. “I think sometimes people get the wrong impression of digital and e-commerce in that it makes everything really easy. It actually doesn’t.”

(Source: [Grainger Q1 2017 Earnings Call](#))

3. Data is Money

Everything today is run by data that's hyper-connected to customers, trucks, warehouses and quality monitoring, just to name a few. Data is an opportunity for distributors and 3PLs to differentiate their value propositions. The ability to gain insight from the data provides real-time visibility, security and efficiency, as well as the opportunity to predict and proactively act on supply chain risks. And, the importance of leveraging big data is growing. Distributors and 3PLs can strengthen their footing by offering expertise and insights that can help manufacturers and retailers achieve their strategic goals. Data gives distributors and 3PLs the ability to manage the entire supply chain on behalf of the customer, manage their ordering and inventory levels and providing them with insights that'll help improve service levels.

Additionally, data science allows distributors and 3PLs to offer strategic value benefits to their customers, such as producing predictive insights and real-time visibility into their supply chains. This results in a more dynamic supply chain that enables customers to make more active, dynamic decisions that reduce network latency, shorten cycle times and protect profit margins. The ability to offer strategic value benefits from data science helps distributors and 3PLs engage further with their customers and strengthen long-term partnerships.

Furthermore, [blockchain technology](#) is causing a big disruption for distributors and 3PLs. Blockchain has the potential to help make the supply chain more efficient, transparent and secure. Blockchain offers the ability to track and trace goods throughout each point of the supply chain, from manufacturing to sales. The technology reduces stock wastage, increases efficiencies and provides companies greater control over their supply chains.

Sample Benefits

- 3 warehouses with 140, 80 and 50 associates = 270 total associates
- Average fully-burdened wage = \$25/hour per associate
- Each associate works 38 hours/week = \$256,500/week
- Yearly payroll = \$13,338,000
- **A 5 percent increase in productivity = \$666,900 savings per year**

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4. Global Workforce Crisis

Due to the aging, global population coupled with historically low unemployment rates, workforce shortage is a big concern and one that does not look to improve for some time. In fact, according to the Reiner Strack TED Talk, "[The Workforce Crisis of 2030 – and how to start solving it now,](#)" most of the top GDP countries will face a critical workforce shortage by 2030, including countries such as the United States, United Kingdom, Germany and Japan. The TED Talk highlights the following big workforce shortages: The United States will have a 4 percent "surplus," which is down from 10 percent in 2020. Additionally, the following countries all face large workforce deficits: Canada (-11 percent), United Kingdom (-1 percent), Germany (-23 percent), Russia (-24 percent), Brazil (-33 percent) and Mexico (-8 percent). There's a fierce competition for available skills around the world, yet a big workforce shortage.

Yet, distribution and logistics companies have continued to go through tremendous transformations that put even more pressure on the need to have a highly flexible and productive workforce. Distributors and logistics companies need to be innovative in the way they retain and attract top talent, while simultaneously improving productivity. Coupled with the influx of millennials and women in the workforce, the workforce economy is shifting to more of a “gig” economy. This shift requires improved abilities to project labor needs by skill and to enable lower skilled workers to quickly on-board and to be productive.

Labor costs often make up about 60 percent of the total variable costs in their operations, but it’s also the ultimate supply chain constraint, not just an operational problem. And, most companies have at least a 5 percent labor cost reduction opportunity (source: JDA Value Engineering).

5. Infused Technology

Drones, autonomous vehicles, RFID and robotics are a few of the disruptive technologies that dominate the news these days. These technologies have the potential to dramatically reshape best practices within distribution and logistics companies, and can strategically redefine value propositions to their customers. Manufacturers and retailers continue to scrutinize their distribution and logistics partners and expect them to bring technology expertise and leadership to the table. This is no longer an option, it’s an expectation.

The 2017 Penn State Third Party Logistics Report measures the so called “IT Gap,” which is what customers expect versus what they perceive to get from their 3PL in terms of technology expertise, is still fairly wide at 58 percent. Although, this improved from 2016, where it was at 65 percent.

Logistics providers need to position technology front and center as part of their go-to market strategy to differentiate their value propositions. Technology impacts the value delivered and improves brand values. For example, Kenco, a midmarket 3PL, established a dedicated Innovation Lab where they explore a variety of technologies to solve customer problems. Because of their thought-leadership, Kenco is recognized by their customers as a true strategic partner.

Navigating the Change

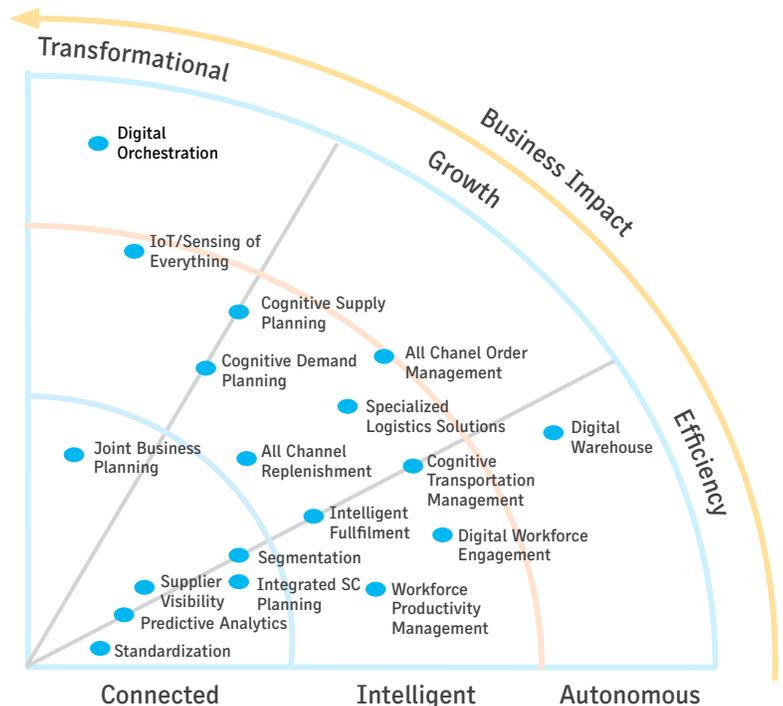
Distributors and 3PLs have been innovating their go to market strategies over the past several years, although most of the industry attention has been zeroed in on manufacturers, retailers and technology providers. In fact, distributors and 3PLs are often the first to adopt advanced automation, test disruptive technologies, such as drones and autonomous vehicles and invest in big data research.

Nevertheless, the best performing companies are the ones that have removed the orthodoxies of their current practices and recognize there is an inflection point where they have to change as their customers are changing and reshaping the demand for their services.

Distributors and 3PLs need to redefine their roles, services and value propositions. It all starts with the realization that digital transformation is underway, whether initiated by the distributors and 3PLs, or expected by the manufacturers and retailers.

The value matrix below provides guidance for distributors and 3PLs that are navigating relevant transformational opportunities, however best performing distributors and 3PLs are the ones that have developed and executed solid transformational roadmaps (source: JDA Value Engineering). Companies need to chart their path towards digital transformation. One company’s roadmap is not the same as another.

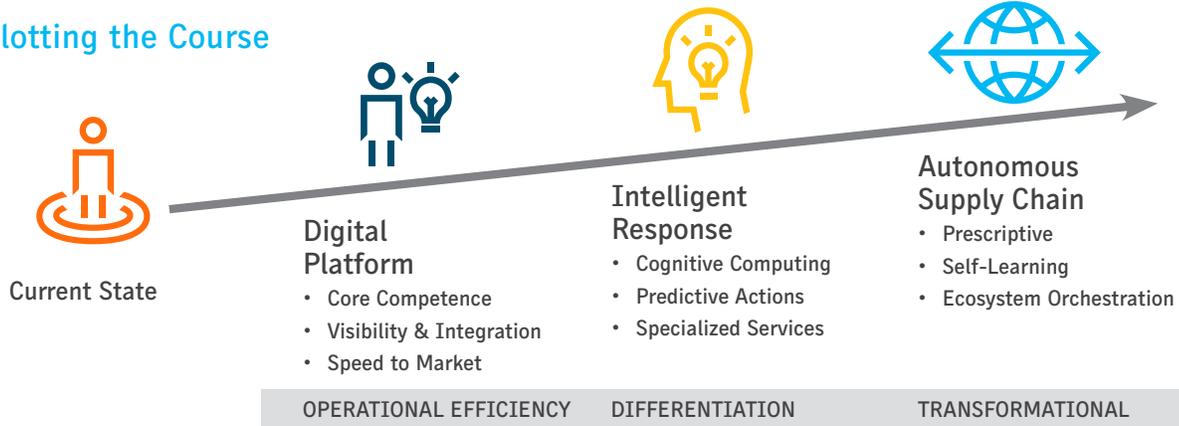
Digital Transformation Value Matrix



The first step in a digital transformation is to transition from legacy and disparate solutions towards a standardized, digital supply chain platform that can grow and change as the industry dynamics continue to be volatile. The digital supply chain platform gives distributors and 3PLs the ability to execute their core competence at maximum productivity, provide end-to-end transparency across

the internal and external trading partners, and most importantly, accelerate speed to market. Beyond the digital supply chain platform, leading distributors and 3PLs leverage data and insights to differentiate their value propositions. Leveraging cognitive and predictive computing capabilities helps manufacturers and retailers navigate uncertainties and risks within their supply chains.

Plotting the Course



Five Initiatives that Can Deliver Transformational Value Today

1. Orchestrating a Closed-Loop Distribution and Logistics Execution

JDA Value Engineering assessments have identified that customers taking advantage of constraint aware and iterative planning workflows between warehousing, transportation and supplier activities can lead to:

- Incremental labor savings of up to 4 percent for dock workers
- Improved cycle time and throughput by as much as 50 percent
- Incremental outbound transportation cost reduction of 0.5 percent above and beyond the savings delivered from traditional warehouse and transportation systems

As customer expectations continue to change and order fulfillment becomes more complex, the awareness of bottleneck constraints in the supply chain have become far more critical. Many companies responded by adding assets and working capital to fulfill their promises and maintain service levels. When the entire industry is responding as such, it's eroding tremendous value of the supply chain. It's very apparent from the Deloitte study on "Wholesale Disruption Disrupted," that the return on capital of the industry has been a consistent decline since 2011. This unsustainable trend has a solution that brings convergence to supply chain planning and logistics execution. By leveraging Intelligent Fulfillment™ (IF) capabilities from JDA, companies can gain bottleneck constraint visibility well in advance of deploying inventory, resolve these constraints across the warehouse and transportation assets simultaneously and digitally collaborate with trading partners to profitably fulfill customer orders.

2. Transforming from a Tactical Warehouse Management System to Building a Digital Business Platform

JDA Real Results

Using JDA's WMS, Kenco was able to:

- Achieve go-live for JDA WMS in just 9 months
- Ship full product volumes within 2 weeks of go-live
- Replace manual picking processes and paperwork with automation and efficiency
- Establish new fulfillment and replenishment rules that supported strategic goals

Using JDA's WMS, Hellmann Worldwide Logistics was able to:

- Meet increasing customer expectations while reducing costs
- Increase inventory accuracy from 70 percent to over 99 percent
- Optimize customer onboarding time, which is now done in just a few hours
- Achieve economies of scale by enabling teams to work cross-functionally
- Standardize operations across all sites
- Improve billing precision

Using JDA's WMS, Bradshaw was able to:

- Significantly improve warehouse efficiency during dramatic growth phase
- Increase ability to handle special customer requests
- Enhance accuracy, visibility and control for daily warehouse activities
- Achieve a 100 percent paperless operation

Using JDA's WMS, Hellmann was able to:

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Warehouse management systems (WMS) have traditionally been the backbone of all distribution and logistics intensive organizations. While the capabilities and value of WMS are well recognized, leading companies have evolved their WMS beyond the traditional value. They've utilized WMS to be the digital business platform to expand their traditional service offerings.

Companies, such as Kenco, leverage the WMS platform to orchestrate value-added services such as kitting, personalization, return management, serialization, unified commerce fulfillment and production management. Additionally, they utilize the data captured, generated and reported from their WMS to predict and plan the business going forward. WMS today is a digital business platform that infuses data and insights from customers, suppliers, big data and IoT to orchestrate the execution of the entire supply chain.

Having a cloud enabled WMS that operates within the digital ecosystem to effectively create and consume actionable insights is critical. This is especially important as companies consider how to effectively respond to disruptive trends such as warehouse space sharing, orchestration of robotics and autonomous vehicles within the warehouse, exchanging data with IoT and blockchain technology, as well as leveraging augmented reality (AR) to assist warehouse workers

3. Digitally Engaging Distribution Associates to Fuel Profitable Growth

Most distributors and 3PLs face, on average, a 30 percent turnover rate in the workforce. Meanwhile, the global workforce availability is tightening, resulting in rising payroll costs and increasing productivity concerns. Based on a JDA Value Engineering assessment, companies in this vertical are typically overstaffed by as much as 5 percent due to the inability to forecast and schedule labor needs. This correlates directly to a 5 percent payroll cost reduction opportunity when labor forecasting and scheduling capabilities are utilized. Recently, GEODIS, a global 3PL provider, reduced payroll costs by up to 5 percent at one of their campuses through launching such an initiative.

Leading organizations have launched a number of CEO-driven initiatives to improve their workforce strategy. Some of these initiatives involve data-

driven analytics which help executives and managers to plan their workforce needs with better accuracy, alignment of performance and skills throughout the scheduling process, digitally engaging associates in planning and scheduling their work and providing performance feedback and coaching.

By ensuring facilities are appropriately staffed, associates are effectively utilized, best practice processing procedures are implemented and performance is measured, resulting in companies routinely achieving 10 percent – 15 percent labor cost improvements.

The following framework is leveraged by the companies mentioned above to optimize workforce productivity and digitally engage distribution associates.

Forecast and Planning

- Forecasting & Workforce Modeling
- Long-Range & Intra-Day Planning
- Flexible Scheduling

Associate Engagement

- Real-time mobile access to schedules and worked time
- Manage availability & holiday
- Pick up available shifts & request to swap shifts

Visibility & Reporting

- Real-Time Visibility
- Performance Dashboards & Reports
- Trend Analysis



Performance Standards

- Pre-defined Standard Library
- Engineered Standards
- Simulation & Modeling

Continuous Improvement

- Coaching & Counselling
- Observation Management
- Incentive Pay Program

Time & Attendance

- Biometric clocking
- Attendance management
- Payroll Processing

4. Leveraging the Digital Ecosystem to Predict and Act on Supply Chain Risks

The traditional supply chain practices and systems have been built based on the assumptions of fixed or average lead times. The supply chain reality often deviates quite significantly from the average lead times. A port strike may delay shipment by two weeks or a traffic jam may cause multiple delayed or canceled deliveries. Closures and shutdowns are often associated with the weather, which may benefit some manufacturers or retailers if they can get their products in the right place at the right time.

These events are often data that isn't available in any structured form. The data needs to be extracted, analyzed and concluded to be meaningful to the

supply chain. The challenge is there are so many sources of digital data available that it's humanly impossible to execute these practices manually.

This is where machine learning disciplines and predictive analytics technologies combined can make these practices scalable and efficient. With the JDA digital ecosystem framework, big data and machine learning will be able to infuse predictive insights so that supply chain managers or systems can act in timely manner in anticipation of specific events.

5. Building Supply Chain Transparency that Creates Value

Despite advancements in S&OP and collaboration processes, supply chain managers are still challenged to gain accurate visibility of demand and supply across the supply chain. This lack of visibility triggers the creation of buffers that eventually creates a bull-whip effect and reduces total value delivered.

Leading distributors and 3PLs have built competencies to deliver solutions that provide their customers with the management of their supply chain, in addition to the traditional distribution and logistics services they provide. Leveraging the Flowcasting discipline, a distributor and 3PL provider for a large fast food restaurant chain is now managing their entire supply chain from ingredient

sourcing, all the way to the restaurant delivery. The company also offers services where they forecast, replenish and optimize the inventory management for each restaurant location. This competency gives the distributor and 3PL provider an edge in the market with this particular fast food restaurant chain. The data also gives them the ability to further innovate and expand their services, such as offering optimization services and continuous improvement initiatives. From the fast food restaurant chain's standpoint, they have been able to reduce ordering costs, decrease out-of-stocks and reduce inventory at the restaurant-level – making the distributor and 3PL provider a strategic supply chain partner going forward.

Call to Action for Distributors and 3PLs

1. Align with the Customer – Align with the customer and understand their 5 – 10-year strategic plan. If they don't have a plan, use it as an opportunity to engage and help them as a partner.
2. Invest in the Right Talent to Drive Sustainable Innovation – Distributors and 3PLs must have internal talent that can perform facilitative leadership. Consider building and/or investing in a dedicated team of experts who will explore potential innovations and jointly build a value-driven roadmap with operations.
3. Explore Innovation Opportunities – Partner with local universities or technology vendors, such as JDA's Innovation Lab, to brainstorm, research and launch proof-of-concepts. This can often jumpstart innovation instead of starting from scratch. Find the right talent and empower them to challenge the status quo. This will give your company a competitive edge they've never had before.
4. Take Self-Assessments – Explore current performance using your company's data to get a baseline and benchmark against others in the industry. JDA's Strategic Opportunity Assessment is an investment that takes a few weeks and translates the company's vision to operational capabilities, highlighting the gaps, assessing the value of opportunities and building a roadmap for digital transformation.

An outside-in perspective view can also be helpful. Self-assessments, such as [JDA's Transportation Management Self-Assessment](#), [Warehouse Labor Management Self-Assessment](#) and [Warehouse Management Self-Assessment](#) can be used to get a personalized benchmark report against best-in-class industry standards.

How JDA Can Help

One thing is for certain, and that's change is happening at an accelerating rate. JDA can provide guidance to the disruptions that are quickly and directly impacting distributors and 3PLs and suggested roadmaps that'll help progressive distributors and 3PLs identify opportunities and navigate changes. Visit www.jda.com to learn more.



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