WHITE PAPER

Dealing With Disruption

C3 Solutions

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The COVID-19 pandemic has sharpened the sting of supply chain risks. Here are some of the big changes, and how to deal with them.

In this paper we look at a number of the fundamental, even seismic shifts, companies are facing. And while we don't claim to have all the solutions, we do have a few practical tips that we hope will help your organization adapt to disruption.

"The new wave of consumers who turned to shopping online initially out of necessity, will likely stay now they have discovered the ease and convenience of doing so"

- Leendert van Delft, VP of Sales and Marketing at DHL Express.

Interruptions in the flow of business have become commonplace in the past year. The COVID-19 pandemic, with its lockdowns, work stoppages and accompanying fear and uncertainty have played havoc with regular supply chain operations. But these disruptions are not altogether new – **the pandemic is simply amplifying the rapid pace of change that has become the norm in supply chains operations over the past few years.**

Being able to bend, adapt or pivot in the face of uncontrollable disruption is the difference between companies that succeed or falter. Flexibility is the new table stakes for survival in these times of unpredictable changes.

In this paper we look at a number of the fundamental, even seismic shifts, companies are facing. And while we don't claim to have all the solutions, we do have a few practical tips that we hope will help your organization adapt to disruption.

E-commerce

Online shopping is here to stay. Where once industry analysts predicted a steady growth in e-commerce over the next few years, now they point to the unprecedented boom created by the COVID-19 pandemic and tell us there is no turning back. It's being called the 'new normal' for retail.

The scope is enormous. Pandemic lockdowns forced many retail outlets to close forever, and prevented people from shopping in stores. E-commerce is estimated to have grown 44% in the US in 2020, with consumers spending US$861.12 billion online. In 2021 global e-commerce spending is forecast to hit US$5 trillion.[1]

To put the growth in context, in 2019, US e-commerce spending grew by 15%. Online shopping's share of the retail pie jumped to 21.3 percent in 2020, up from 15.8% in 2019 and 14.3% in 2018.[2] Moreover, all of the growth in retail sales last year came from online shopping; traditional retail sales – stores, catalogs and call centres – have declined.

"The new wave of consumers who turned to shopping online initially out of necessity, will likely stay now they have discovered the ease and convenience of doing so," said Leendert van Delft, VP of Sales and Marketing at DHL Express.[3]

What this means for retailers and their suppliers is a fundamental change in the way business gets done. Whether you operate a mom-and-pop shop or a global e-commerce behemoth, the challenges are real. Failing to adapt quickly might prove to be fatal.

As consumers flock to online channels, the pressure to deliver orders intensifies. Online shoppers expect fast, free delivery. City dwellers want orders processed and delivered in hours, or at least the next day. And with the proportion of sales increasingly shifting to home deliveries or curbside pickup, **retailers have to find new ways to speed up their processes**, from the warehouse to the last mile delivery.

As orders build, so too do returns. Free returns are becoming table stakes for omnichannel success. **In normal times the e-commerce return rate was 25%. But some retailers have reported returns increasing by 200% since the start of the pandemic**.[4] This is partly driven because bracketing – where customers buy multiple sizes of the same item to ensure they find a fit – is on the rise with stores no longer being an option for try-ons. However, the reason for the return is really immaterial. They always represent

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Industrial real estate has been on a wild ride over the past couple of years. Already high demand for warehouse space had pushed rents and land prices into record territory, even before the pandemic. And when COVID-19 forced consumers to shop online, the push to fulfill e-commerce orders quickly and efficiently turned demand into a panic.

significant costs for the retailer, with added transportation, assessment, handling and then potential liquidation or landfill.

Multiple delivery modes are also adding complexity to the e-commerce supply chain. **Omnichannel** has expanded to include many options for consumers including direct-to-home, in-store pick-up, and curbside pickup (buy online pickup in store or BOPIS). And while this is great for the buyer, the retailer's supply chain has to become ever more flexible. In addition to being able to process orders, there has to be a robust mechanism in place to ensure deliveries can be made to whichever type of address is selected, and on the correct schedule.

For companies with limited resources, this was a new adventure as the pandemic took hold. Shutdowns forced small retailers to offer curbside pickup and even home delivery in markets where they normally relied on local foot traffic and in-store shopping. Many were depending on taking phone orders and fulfilling orders from their store stock. Others with **fledgling e-commerce applications suddenly experienced a surge of business and found they needed to upgrade their systems** and fulfillment processes. Even big retailers like Home Depot had a learning curve as the pandemic shuttered their box stores, and overwhelmed their nascent online ordering capability.[5]

There's no magic formula for adapting to the e-commerce boom. But strategies for success do rely on some common elements.

- **Stay close to your customers.**
  This isn't so much a supply chain strategy as a means of ensuring the orders keep flowing in. Customers want to know you are reliable, take their needs seriously and are staying up to date. This may mean updating your e-commerce interface, hopping on social marketing or even shifting from B2B to B2C as work from home becomes the norm.
- **Offer curbside pickup.**
  This may mean adjusting where and how your inventory is allocated, but it will ensure you can keep operating, even during lockdowns, and has the added benefit of setting you up for future BOPIS sales.
- **Refine your order picking processes.**
  Analyzing where your picking process is inefficient can yield significant gains in productivity, helping to meet increased demand without adding more labour or space.
- **Streamline your movements.**
  With an uptick in orders going through a variety of delivery channels, **it is critical to have insight into truck arrivals and departures**. Being able to synchronize events so that orders are staged and ready to go when a truck arrives, or having the right number of staff and equipment on hand as an inbound replenishment load rolls up to the dock can save precious hours. It may seem simple, but adding scheduling capability for your loads is an effective and cost-efficient way to increase productivity when you are under pressure.

The Real Estate Boom

Industrial real estate has been on a wild ride over the past couple of years. Already high demand for warehouse space had pushed rents and land prices into record territory, even before the pandemic. And when COVID-19 forced consumers to shop online, the push to fulfill e-commerce orders quickly and efficiently turned demand into a panic.

According to real estate firm JLL Americas, industrial rent growth has been positive and vacancy rates have been at historic lows since 2011. And with e-commerce sales predicted to grow to US$1.5 trillion a year by 2025, the increase in demand for industrial real estate in the US alone could reach an additional billion square feet, including a projected 100 million square feet of refrigerated space for online grocery distribution.[6]

But whether it's moving out of town to a big, tall, massive DC or choosing to maneuver the tight spaces of the downtown core, scheduling is an important part of your tactical tool kit.

Dock scheduling gives you and your carriers precise information about when and where to go. And, when things get unpredictable, it also delivers the ability to make changes on the fly. Flexibility – as we have all seen in the past year – is fundamental for a successful supply chain in 2021.

Logistics real estate developer Prologis estimates e-commerce needs 1.2 million square feet of distribution space for each US$1 billion in sales, which means e-commerce requires three times the space of a traditional retail distribution centre.

But there is less and less space available to build new DCs. Greenfield development is being pushed further away from population centres, and conservation regulations in some areas make it more challenging to get permits to build. The shortage of large spaces is forcing 3PLs and e-commerce distribution operations to consider alternatives to housing their fulfillment centres under one large-bay roof.

Companies are looking to solutions like book-ending – where they have smaller distribution operations in mid-sized population centres that can reach larger ones in the middle.[7] Other solutions include multi-story warehouses, ultra-tall buildings, and **micro-fulfillment centres located in downtown areas**.

Each of these solutions will pose new logistics challenges. Let's look at them one by one:

Book-ending: Building smaller DCs in less dense population centres can create savings on real estate by taking advantage of less desirable land. But the strategy may also create new challenges for distribution. Duplicating infrastructure means additional capital expenditures because of lost economies of scale. And, unless inventory is mirrored in each facility, some orders may have to be fulfilled from more than one DC. Increasing the complexity of order fulfillment underscores the need for robust scheduling of both inbound and outbound transportation.

Taller and multi-story buildings: Multi-story distribution centres and facilities with 80- or 90-foot clear heights are beginning to gain traction. Building upwards means a lot more can be stored in a much smaller footprint. This saves on land costs, can help maximize investments in automation, and reduce costs such as heating or cooling.

On the other hand, these buildings, with their density, will still require replenishment and outbound shipping. They need to be designed to ensure the right number of dock doors is available, not to mention yard space and truck access to those doors. Efficient use of space must not come at the expense of the ability to serve it. When outdoor acreage is scarce, it is even more critical that time management comes into play. Ensuring that inbound and outbound trucks can get to the docks, and on schedule will prevent backlogs and overflows from smaller yard areas.

Micro-fulfillment: Tiny micro-fulfillment centres are urban hubs for fast-moving retail goods like groceries and other consumer items. Designed to fill e-commerce orders for a small geographical area, they need to be efficient and cannot afford to experience **stock-outs**.

The challenge for these small facilities will always be balancing the flow of **inbound and outbound products** so that customers always get their orders within the promised time window – usually the same day, or even tighter. And, given their location in urban centres, they will not be served by large trucks, but rather by a parade of smaller vehicles that can maneuver tight parking lots and back-alley loading doors. Just one delayed truck can upset the delicate balance needed to keep this DC flowing, so again, it's imperative to ensure that the comings and goings of the truck fleet are carefully scheduled and exceptions managed.

Dock scheduling is not the only piece of the puzzle that will help you to manage through the real estate boom. Obviously your organization needs a larger strategy to adapt to the conditions in your region and for your distribution niche.

But whether it's moving out of town to a big, tall, massive DC or choosing to maneuver the tight spaces of the downtown core, scheduling is an important part of your tactical tool kit. Dock scheduling gives you and your carriers precise information about when and where to go. And, when things get unpredictable, it also delivers the ability to make changes on the fly. Flexibility – as we have all seen in the past year – is fundamental for a successful supply chain in 2021.

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Labour Shortages

For distribution operations, two pools of labour are key – truck drivers and warehouse staff. Both are in short supply. These shortages are not new, but they have been greatly exacerbated by the COVID-19 pandemic. And they have quite different characteristics.

Truck drivers

The difficulty in filling truck driver positions is largely due to the aging of the current workforce, and exists around the world. A recent study by the International Road Transport Union (IRU) looked at the problem in 20 countries in 2020. It found that in spite of reduced demand due to the pandemic, driver shortages intensified, with shortfalls as high as 20 percent in some regions. And it's forecast to just get worse.[8]

The "driver shortage threatens the functioning of road transport, supply chains, trade, the economy, and ultimately employment and citizens' welfare. This is not an issue that can wait, action needs to be taken now," said IRU Secretary General Umberto de Pretto, in the study.

A lack of trained personnel was cited in the IRU study as the main cause. Breaking that down, they found that work conditions, such as lack of safe parking and facilities, and an inability to attract new drivers from under-represented demographics like women and youth play a huge part in keeping the shortage alive.

Only 2% of truck drivers globally are women, and the percentage fell in 2020. The percentage of truck drivers under 25 also fell nearly everywhere in 2020, from already low levels down to 5% in Europe and Russia, 6% in Mexico and 7% in Turkey. The IRU noted that "with the average age of professional truck drivers globally now close to 50, and steadily growing older each year, this demographic time bomb will only get worse without action to reduce minimum driver age."

When there aren't enough drivers it means loads sit waiting to be picked up. Capacity declines, and prices rise. The uncertainty about getting loads delivered adds to supply chain complexity and costs, and leads to climbing consumer prices, potential loss of brand equity and loss of customers when out-of-stocks occur.

As a shipper, there are several actions you can take to help make driving a truck more attractive. **It boils down to becoming a shipper of choice.** By making your facility a place where drivers are welcomed and treated with respect, you'll be helping to improve the profession's marketability to new drivers.

Given that lack of facilities and parking are a couple of the conditions making driving unattractive, providing showers, rest rooms and lounges can go a long way toward making your DC a popular destination. Add to that a scheduling system that is easy to use, reduces wasted waiting time, and lets drivers keep moving to make money and you'll be getting gold stars from drivers of all demographics.

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Warehouse workers

Before the COVID-19 pandemic, warehouse labour was already in short supply. But with the economy shifting to e-commerce during the pandemic, major warehouse operators moved into hiring mode. E-commerce order fulfillment is 15 times more labour intensive than fulfillment to stores[9], and with stores closing and consumers switching to online shopping the demand for workers skyrocketed. According to The US Bureau of Labor Statistics, warehouse employment hit its all-time high in September 2020 with 1.25 million workers.[10]

But the pandemic also put the brakes on companies' plans to hire for the peak season. **Concerns about catching COVID-19 at work** means it is more difficult for large employers to attract the workers they need. Major outbreaks at numerous distribution centres disrupted the flow of operations as workers called in sick, or didn't show up, or called out their employers' safety protocols[11] because they didn't want to be exposed. In just one example, the Amazon.com DC in Brampton, Ontario, was ordered closed by the health department because more than 600 workers had fallen ill with the virus.[12]

Automation is often touted as one of the answers to the shortage of warehouse workers. But for e-commerce order fulfillment, robots have not yet replaced human labour. Robotics technology is improving, but it is widely understood to be years away from having the intelligence, vision and grasping capabilities of human beings.[13] For the moment, automation in warehouses augments the human presence, but doesn't remove the requirement for many hands.

While robots may not be the solution – yet – adding technology can help. Implementing a smart solution like **dock scheduling** and **yard management** can make your existing employees more productive. First, the person or people who are tasked with keeping track of comings and goings at the loading docks will have more time on their hands to do more valuable activities than chasing shippers and truckers on the phone, spreadsheet in hand, to find out where loads are.

Second, your dock workers will no longer need to loiter around waiting for a truck to arrive – with scheduling software they'll know when that trailer is backing in, and can be ready to start loading or unloading right when they are needed. Likewise, a yard management solution will increase productivity by preventing the wasted time spent looking for trailers in the yard.

If automation is not the answer, there is one way that employers can help alleviate the workers shortage – become an employer of choice. And, as with the truck drivers, making your workplace friendly, safe and inviting will help propel you to the top of the list of preferred employers. Many warehouse operators, from retailers to 3PLs, are making themselves attractive by offering their employees gyms, sports, free meals, gardening opportunities, quiet rooms and more. However, the bottom line still remains the bottom line – the best way to attract and keep employees is to offer competitive wages.[14]

Transportation Capacity

Transportation capacity has been a significant challenge since the onset of the COVID-19 pandemic. Shippers are finding it difficult to secure space on ships, planes, trucks and trains to move their goods.

As the pandemic took hold in 2020, and air carriers stopped flying, bellyhold space was removed from the market, causing a huge gap between supply and demand. And with the need to distribute vaccines, demand for space on planes has increased. "Severe capacity constraints persist as large parts of the passenger fleet remain grounded. This will put pressure on the industry as it gears up to deliver vital COVID-19 vaccines," said Alexandre de Juniac, IATA's director general and CEO.[15]

Likewise, cross-border disruptions (**like what we've seen with Brexit**), the shortage of drivers, and the uptick in e-commerce have combined to drive the truckload market to its limits. Market conditions for the trucking industry have been described at "close to the best ever", which puts shippers at risk of having loads not picked up, delays and soaring prices.[16]

Perhaps the most dramatic part of the capacity picture is the situation with ocean freight. In a global supply chain that relies on containerized ocean freight to move 80 percent of the world's goods by volume, or 75 million TEUs a year[17], a number of factors are giving shippers a massive headache.

When the pandemic hit in China and factories shut down, so did the flow of goods. Ocean carriers reacted by cancelling sailings and parking ships. By early April 2020 almost 150 sailings had been 'blanked', and the trend continued. But as the pandemic accelerated around the world, consumers began to spend on durable goods. China, which had come through the pandemic first, was ready; its factories quickly returned to churning out material goods and components for export. Home renovations, sporting goods, and home office supplies spurred a boom in demand that caught the ocean carriers unprepared.

As a result, rates spiked and container ports around the world clogged up. The benchmark rate for a 40-foot container from Shanghai to Los Angeles increased US$1,500 in May 2020 to over US$4,000 by February 2021.[18] And with their own labour shortages to contend with, along with constrained supply of trucks to move containers off the terminals, the ports were not able to keep up with the influx.

As early as May 2020, the global freight forwarders' association, FIATA, was warning of container imbalances and shortages of space at container terminals.[19] By the beginning of 2021, the accuracy of the prediction was proved. Dozens of ships were forced to wait at anchor off the busiest container ports, and terminals overflowed with both full and empty boxes. By the end of 2020, a third of containers shipping out of the world's biggest ports did not leave as scheduled.

As if the already existing delays were not enough, on March 23, 2021, the MV Ever Given, a 400-foot-long containership capable of carrying 20,000 TEUs (one of the largest in the world) got wedged in the Suez Canal. It blocked shipping traffic for a week, affecting delivery of almost a million containers aboard 360 ships. Estimates suggested that blockage was holding up US$10 billion worth of trade every day.[20]

The effects were predicted to be felt for months, as ships freed from the canal bunch up and arrive at ports simultaneously, worsening the backlogs already in place. In the immediate aftermath of the clog, shipping lines were halting short-term bookings and increased their rates.

Transport capacity is one supply chain variable that shippers cannot control (unless they own their own fleet, of course). If you want to move your goods you have to buy transportation services, and when capacity is tight, for whatever reason, you will pay more, and face delays.

There's not much you can do to change the situation, but **there are ways to mitigate the risk**.

- **Move your source of supply closer to home.** Nearshoring manufacturing, or shifting to local suppliers will give you the advantage of a shorter supply line, and reduce reliance on transportation.
- **Safety stock.** Keep more inventory on hand than a lean, just-in-time supply chain. It will allow you to meet unexpected demand surges.

- **Invest in analytics.** The more you know about your supply chain, the more prepared you can be for disruptions in transportation.
- **Become a shipper of choice.** When transportation suppliers have a choice of loads to pick up, being a company that they like to deal with might make the difference between getting service or having your loads sit waiting at the loading docks. As we have noted before, being that shipper means having the capability to ensure drivers and their time are treated with respect. Implement dock scheduling; install that break room. Make it easy for them to deliver and pick up at your facility.

Regulatory Changes and Trade Disputes

Ensuring compliance with new regulations is a reality of today's supply chain operations. From pandemic-induced border closures and modifications in tariffs, to long-anticipated developments such as the introduction of electronic logging devices (ELDs), changes to the regulations that govern business operations can present a significant challenge. Keeping up to date requires vigilance, research and, sometimes, significant costs.

Examples are plentiful: Canadian trucking operators are facing an ELD mandate that was set to take effect in June 2021. And while enforcement won't kick in for a year, there are numerous challenges to be overcome in that time. Questions surround the availability of the devices themselves, the need for training, configuration, exemptions and supplier readiness, among other issues. [21] Trucking industry groups are campaigning to ensure their members are prepared, but lament the lack of information available to inform decision-making.

Likewise, on-again, off-again changes to trading regimes can leave companies in the dark. The US-Canada dispute over aluminum is one such example. After saying it would impose tariffs on Canadian aluminum products, the US government abruptly reversed course in September 2020, just as Canada was about to announce retaliatory measures, leaving the industry confused and wondering if the fight was over for real.[22]

The list of additional such challenges is long. COVID restrictions at the Canada-US border are a mass of confusing regulations, and sometimes inconsistently applied. Rules for flights are also in flux.

New trade deals pop up on a regular basis, leaving manufacturers, importers and exporters alike to unravel masses of sticky red tape. Take the provisions for the auto industry included in the new Canada-US-Mexico deal that replaced NAFTA, for example. Some estimates suggest up to 40% of vehicles made in North America may not comply with the new USMCA rules for labour and/or regional content. “Failing to comply with the new rules will increase costs, leading to higher prices for consumers and, possibly, reduced vehicle demand. This, in turn, could cause production of vehicles and auto parts to decline in all three countries” said consulting firm PwC in its analysis.[23]

Dealing with politics and bureaucracy is probably nobody’s favourite pastime. And for most supply chain managers, it likely comes closer to the stuff of nightmares. But there are a few ways to keep ahead of the disruptions these changes bring.

- **Get involved with your industry’s trade association.** It’s usually their mandate to keep members informed of changes and to lobby on their behalf with the relevant levels of government.
- **Engage a customs broker or forwarder to manage your cross-border transactions**. It’s their business to ensure customers comply with current regulations, and they do the detailed work on your behalf. Even smaller companies with cross-border aspirations can benefit from using large couriers to manage the import-export process. You just need to determine if the amount of business you bring in justifies the cost.
- **Be organized.** Implement a comprehensive digitization strategy. It should be able to capture country of origin for your cross-border products, enhance e-commerce, as well as adding WMS or WCS and scheduling functions to your operations.

Managing the Unmanageable

It’s a truism that nothing ever stays the same, that everything is in flux. But the past year, from early 2020 to early 2021 has seen change writ large and fast. If you feel like you are riding on a rollercoaster in the dark, you aren’t alone. When the only constant is unpredictability, business and life take some weird turns.

Eventually, however, the pandemic will subside, and the new normal will settle into routine. It is our hope that some of the insights you’ve gained from the paper will help you to be ahead of the curve, and ready to pivot, adapt and prepare for whatever the next surprise might be.

Recap

Retailers have to find new ways to speed up their processes, from the warehouse to the last mile delivery.

- ★ Stay close to your customers.
- ★ Offer curbside pickup.
- ★ Refine your order picking processes.
- ★ Streamline your movements.

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