

The ultimate 4PL guide to the supply chain



→ Part 1

Content

Introduction

- The world has changed **3-4**
-

From just in time to just in case – the new reality for the supply chain

- [Watch the webinar recording](#)
- Economic and political turmoil **6**
- Flaws, but real opportunities **6**
- Supply chain dynamics **7**
- Real-time visibility **7**
- Key differentiator **8**
- Breaking down the barriers to digital innovation **8**

How digital technology brings perfect vision to your supply chain

- [Watch the webinar recording](#)
- Making it all visible **11**
- Mastering master data **11**
- The power of intervention **12**
- The 4PL advantage **13**
- The digital control tower **14**
- Agile approach **15**

The right skillset to orchestrate your supply chain

- [Watch the webinar recording](#)
- What does this new future look like? **16**
- A skills-driven supply chain **17**
- Supply chain orchestration **18**
- Harnessing collaboration **19**

Conclusion

- Conclusion **20-22**

The world has changed



Introduction

The world has changed. Dealing with the disruption prompted by economic and financial instability and a global pandemic has suddenly become the norm for businesses in every industry. In response, supply chains have adapted quickly and well. Smart supply chain management now means building in greater flexibility to deal with the inevitable ‘what ifs’. It’s about boosting resilience while still remaining competitive.

This abrupt shift to what might be called ‘business as unusual’ has created new challenges. Supply chain managers have to make the quick, informed decisions these circumstances demand. And they need real-time information to do that.

However, securing data is not the end of the story. Information only becomes useful when people can deal with it effectively - because they can act on it. It’s

only when it gets into the right hands, that it becomes truly valuable.

And that’s why fourth-party logistics - 4PL - providers are ideally placed to deliver this benefit. Their integrated approach, ability to identify and apply technological innovation, and deep-rooted supply chain skills, plus hands-on practical expertise, are exactly what this new world demands.

From just in time to just in case – the new reality for the supply chain

“The evolution of supply chain best practices”

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In little more than a few weeks, the world changed. Covid-19 brought severe economic disruption. Manufacturers around the world came to a near-standstill, global freight transport slowed, lockdown and social distancing measures became the norm. Yet amid unprecedented market conditions, supply

chains have managed to adapt relatively quickly. They have largely dealt well with uncertainty and volatility – which bodes well for the future, because increased flexibility is set to be a central feature of the reshaped environment, along with a step-up in innovation and increased connectivity.

Covid-19 has overturned a lot of previously comfortable assumptions - and not only awakening employers and their staff to the advantages of teleworking. Supply chains that were previously overlooked or taken for granted have suddenly taken centre-stage, especially the need for **increased collaboration between individuals and organisations** amid a physical dispersal that has called on previously untapped qualities and capabilities.

Economic and political turmoil

In fact, while the pandemic has been a major challenge for everyone, it's best seen as the biggest - and most sudden - of a lengthening series of transformations. Recent decades have seen the rapid globalisation of the world economy, significant demographic changes, and a shift toward greater sustainability in business operations. We've also experienced the rise and rise of e-commerce.

At the same time, economies have been affected by escalating international political turmoil - most prominently the growing friction that erupted into the US-China trade conflict, which has seriously affected the flow of essential manufacturing components as well as of finished goods exported from Asia.

Little wonder, then, that the term VUCA - an acronym for volatility, uncertainty, complexity and ambiguity - has been steadily entering the language of logistics

discussions. And that's despite the fact that anything unexpected, unknown and - worst of all - unknowable has traditionally been seen as the enemy of smoothly-operating supply chains.

Clearly, the VUCA world has been with us for a while, well before the arrival of Covid-19, and once solidly established supply chain paradigms are being questioned.

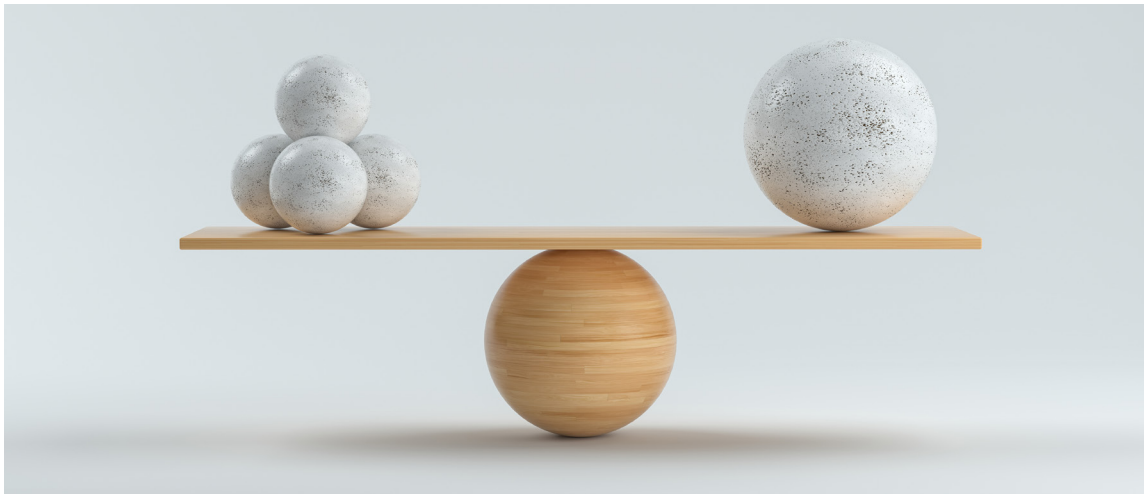
Flaws, but real opportunities

Systemic flaws have been truly exposed. Modern supply chains were constructed to strike a balance between high performance and the lowest possible cost. That has left us with long, extended systems that are in many cases also highly complex, low in visibility, and sometimes lacking critical safeguards against disruption.

All of this has demonstrated the need for greater resilience, but also highlighted opportunities. Supply chain managers are now learning to live with and manage disruption on an ongoing basis.

Just-in-case appears to be replacing just-in-time as the order of the day.

Supply chains need to be purposely designed to handle different 'what ifs?' as the focus shifts from maximum efficiency at the lowest cost toward the goal of ensuring a robust supply of goods.



Supply chain dynamics

The question is: how can we best engineer this transition? Clearly, the choice of logistics support is critical for companies looking to steer a way through the current volatile environment and adapt to what appears certain to be a more permanent climate of uncertainty. They need to be able to rely on a trusted partner that offers global networks, along with broad expertise in supply chain dynamics, and the ability to

provide strategic business insights.

That's where the new breed of fourth-party logistics providers - 4PLs - can really prove themselves. Their integrated approach, and ability to draw on a wide and deep range of resources, offers the ability to control infrastructure, manage resources and harness technological innovation in order to help manage change better.

One core capability of a 4PL is a global network of supply chain partners that offer customers additional third-party infrastructure to facilitate frictionless operations. It should also bring in valuable additional skills, intellectual capital and hands-on expertise capable of delivering strategic enhancements in periods of disruption. This can be critical in ensuring that their clients are fully fit for the future. CTA – Watch the webinar recording on the covered topics “The evolution of supply chain best practices” Using those assets to generate creative, actionable ideas is and will continue to be crucial. One major global pharmaceutical group says out-of-the-box thinking from third parties has proved critical to its business in recent months, and it expects to rely even more on solutions provided by external logistics partners in the future.

Real-time visibility

With their ability to orchestrate the entire supply chain, 4PLs can support clients by providing them

with access to a unified ecosystem. At the centre of this is a digital control tower that delivers the real-time visibility into operations required during periods of both disruption and transformation. And this is a genuine need – just one-fifth of supply chain managers are able to say that their systems do an excellent job in providing accurate real-time insights into supply chain performance. But those that possess this capability certainly value its worth. One leading fast-moving consumer goods group says it has discovered that as the Covid-19 pandemic hit, the investments it had made in internal visibility capabilities came to the fore. This area will now get increased funding going forward.

Key differentiator

It's also clear that 4PLs can help deliver faster response times, and provide greater control and co-ordination through a single point of contact. Factor in extensive logistics resources and technology-led systems, and this will enable end-to-end management using any or all transport modes. Around 90% of supply chain managers believe that data-driven insights have emerged as a key differentiator in 2020. However, information systems need to be well tended and must be actively managed, reliable and use the latest technological tools to assist understanding a burgeoning array of inbound signals.



Only then will users receive the actionable, data-driven insights they need to be able actively to monitor, anticipate, forecast – and respond – effectively. Clients understand this. As a personal care company notes, the pandemic has highlighted the need to work smarter and to be much more agile, “making the business case for the digital control tower even more attractive”.

Breaking down the barriers to digital innovation

Digital innovation will be central to the future supply chain. A rapidly evolving logistics environment will be a powerful spark for innovation, and an accelerator of supply chain transformation. Today we are seeing the emergence of solutions based on technologies such as 5G mobile telecommunications, process automation, the internet of things, blockchain and artificial intelligence.



The winning strategy will involve leaning on some or all of these technologies to develop efficient as well as robust and responsive logistics processes. It also entails marrying that innovation to human expertise. There are still barriers to be broken down, both in technology and the way information is used. Standardisation of the way information is shared remains an issue in the supply chain, often linked to differing levels of digitalisation from country to country. There are also obstacles to the sharing of information in companies' reluctance to share data for competitive reasons, or their use of different data formats.

These issues can be increased by cultural differences that are liable to arise on both sides when established companies interact with start-ups, whose specialist expertise may not be matched by broader industry understanding, or broad partnership networks. Breaking down these barriers is part of the crucial role that 4PLs can play in helping make supply chains fit for the future and capable of withstanding unique challenges - even a medical emergency that puts an industry's operating habits and long-established assumptions to an unprecedented test.

How digital technology brings perfect vision to your supply chain

“Building a Digital Control Tower”

Watch the webinar recording →

To be able to respond to the unpredictable, you need access to information - timely, relevant, accurate and actionable. That's why the key quality of fourth-party logistics providers is their ability to use digital technology to bring together data from a wide range of partners and help you keep your business on track.

One of the compelling lessons of the first half of 2020 is the inescapable evidence that supply chain resilience trumps all. With 'business as unusual' suddenly the norm, supply chain managers more than ever need tools that deliver the visibility necessary for fast, informed decision-making, reliably and consistently. That means both ensuring access to data you trust and knowing exactly what to do with it when you have it.

The challenge is that highly complex supply chains involving many parties continually deliver a torrent of data that need be integrated and analysed. In addition, crucial data may be late – sometimes too late – in arriving, or not arrive at all. Key information may have been collected but is held in different places and hard to pull together. Otherwise efficient stand-alone systems are often incapable of talking to each other due to lack of standardisation.

Making it all visible

Supply chain managers can't be expected to make rapidly the informed decisions that are sometimes essential when they lack a comprehensive picture of all the data. In fact, according to a Kuehne + Nagel survey (July 2020) of our clients, almost 90% say getting end-to-end visibility across the supply chain is a major challenge. This puts operational control at significant risk.

Four steps to improve visibility:

- ❑ First, develop a management capability that ensures all data is complete and accurate.
- ❑ Second, ensure the ability to add relevant shipment information throughout the journey.
- ❑ Third, aggregate data in order to obtain essential insights.
- ❑ Finally, deploy advanced data science in tandem with the right analytic talent to build models that support best-in-class decision-making - in both operational and strategic matters.

Mastering master data

However, all these elements, vital in themselves, are dependent upon one critical factor. This is master data. Optimal supply chain performance is highly dependent on accurate and consistent basic information, relating to the goods themselves and sometimes their raw materials or component parts, including measures such as dimensions and weight. It also includes essential information about journey



locations, including warehouses, distribution centres and retail outlets.

Also part of the master data mix is information on the wide range of parties involved, from suppliers, manufacturers and distributors to the final customer. But establishing this essential data is only part of the job. It is not a one-off task, but an ongoing management task to ensure the information is up to date and accurate, and accessible whenever you need it. Staying on top of master data management

is vital in itself, with more than 80% of supply chain managers identifying it as a key challenge.

The power of intervention

Even when the core data management system is in place, you need to continue collecting further information to ensure that goods remain on track throughout their journey toward the end-customer. This offers the ability to monitor and anticipate, as well as to intervene proactively.

Whenever an element of non-conformity arises - something that hasn't been anticipated, such as booking cancellations, late deliveries, or missing or incomplete documentation - the issues can be identified and resolved immediately.

This is where risk information is essential - relating to issues such as process adherence, lane capacity and missing data itself, but also factors such as political, economic and social risks, and even the weather. The right intelligence at the right time enables supply chain managers to evaluate impacts and make informed decisions, for instance on whether to put goods on hold, opt for alternative routings, or change transport modes.

Here the 'Thousand Eyes Principle' can come into its own. Drivers who use community-driven GPS navigation apps to find the best route benefit from the value provided by the system's users when they report incidents as they occur, making the information available to everyone using the platform.

The 4PL advantage

This is where fourth-party logistics providers - 4PLs - and their integrated approach can really deliver. A global network comprising a broad range of supply chain partners, each supplying regular and accurate reporting, is a valuable resource providing integrated and timely, actionable data.

The case for 4PLs has never been stronger than this year. With their focus on technological innovation, they can help clients manage and indeed embrace disruption. More than ever, supply chain managers



benefit from the proven system architectures that 4PLs have built and developed together with clients and logistics service providers.

In addition, 4PLs can support clients' shift toward flexible cost structures, for example by outsourcing a range of their non-core functions to specialists. This creates opportunity to improve return on investment, but it also adds complexity to the supply chain.



The digital control tower

Here 4PLs can help align the demand and supply sides of a client's business. They can provide timely and effective communications between all collaborating partners; they can manage all of the data generated outside the organisation; and they can provide flexibility when disruptive events occur - a capability that has proven critical during the Covid-19 pandemic.

To manage a multi-tiered supply chain with multiple outsourced partners, they operate a control tower

that collates data from the supplier to carriers to the end customer in a single platform. It uses artificial intelligence-supported applications to turn data into actionable information, and orchestrates complex logistics processes in a dynamic way.

However, a control tower is not just a data or software service, but collaboration involving people, processes and systems that adds sustainable value.

The control tower manages the complexity of processes and delivers visibility, providing users only with information that is relevant, easy to understand and actionable in order to manage the operational workflow.

This offers a wide range of benefits. For example, many clients struggle to get the right products to the right destinations. The control tower can boost forecast capabilities at retail level to ensure the correct number of units is available when required, reducing both expedited freight volumes and inventory levels.

While customers could attempt to build their own digital control towers from the bottom up, it's a long process that could take years that the business can't afford. A partnership with a 4PL not only offers a short cut to that capability, it gives supply chain managers direct access to secure cloud-based systems and puts clear, actionable data at their fingertips. For a firm, developing its own control tower capability will require a great deal of technical and supply chain expertise, in addition to resources and management time. Research indicates that while a majority of supply chain leaders recognise advanced analytics as critical to their operations, keeping up to speed with the latest technologies is a major challenge.

Agile approach

A good 4PL will have at its core an actively managed information system. This will incorporate the latest technological solutions, which may be based on innovative developments such as the internet of things, blockchain and AI. It also strikes the right balance between in-house technology resources and those of specialist solution providers.

The ability to identify promising third-party innovations and to adopt and integrate them involves an agile approach that enables 4PLs to harness disruption for the benefit of clients.

This is combined with a 4PL's human resources - intellectual capabilities and hands-on practical expertise to provide a deeper understanding of the supply chain and data-driven insights to be shared with clients. If that wasn't always obvious in the past, it's increasingly evident now.



The right skillset to orchestrate your supply chain

“Upgrade your supply chain skills
with the power of collaboration”

Watch the webinar recording →

What does this new future look like?

The Covid-19 pandemic clearly demonstrated that the traditional model was unable to deal with high levels of uncertainty. When accurate forecasting became close to impossible, supply chain managers were left to chase after real-time intelligence. This year's experience has highlighted that a very high level of transpar-

ency is needed to support on-the-spot decision-making that has become the new norm.

As a result the supply chain, often taken for granted in the pre-Covid era, has become a key strategic asset. It's no longer simply a matter for the backroom, but a key issue in the boardroom.

**A skills-driven supply chain**

However, this valuable resource, with all the new capabilities supply chain managers are demanding, has to be more than the sum of its technological parts. More than ever now, the supply chain needs the right people to make it deliver. It requires individuals who can assimilate huge amounts of information rapidly, with real-time problem-solving capabilities, and who can work effectively across silos.

This means big thinking, and it requires the right set of skills. Traditional supply chain management remains a

core part of it. A solid end-to-end operational understanding of the supply chain, functional knowledge and market intelligence are as important a priority as ever. Understanding the process and related problems in detail, knowing exactly what your options are and having a sense of urgency and the ability to solve complex problems is a must. Since co-ordinating your efforts with others has become crucial, the ability to manage people effectively is now essential. Analytical skills that can obtain insights and intelligence complement and improve service delivery.

Knowing where and how to gather, explore, clean up, supplement and read out data makes it possible to detect patterns and extract intelligence. Engineering and implementing digital tools and algorithms turn this intelligence into targeted predictions that help supply



chain teams to make better-informed decisions. Another highly valuable asset is the ability to design, implement and manage changes in the supply chain, whether involving physical actions, systems or workflow. Co-ordinating with suppliers, logistics partners and IT teams is a vital part of delivering on commitments.

In theory, these requirements call for a person with consummate analytical and functional skills, who is also a network engineer, as well as a project manag-

er and a technological innovator. They must possess digital dexterity, and a 360-understanding of every component of a supply chain.

Supply chain orchestration

In practice, these skills are usually brought together not in a single person, but in a team that covers all the capabilities required. Such a skilled group can deliver results, with support from digital solutions to automate repetitive tasks, collate multiple data and prompt timely action.

This is where the team of specialists that underpins the control tower comes into its own - a combination of intellectual capability and practical expertise.

You can compare it to the interaction of members of an orchestra performing a piece of music. Soloists and ensemble players with mastery of different instruments are called on by the conductor to provide their contributions at just the right moment to create a harmonious whole. Ensuring a supply chain delivers



is not so different, drawing on the skills and disciplines available to compose comprehensive solutions and address issues as they arise.

For example, analytics might highlight a significant number of demurrage and detention events on shipments for a particular client. Additional work by data scientists could identify a number of incident hotspots. That's where the partnership between our teams and our client organisations pays off. A fix could involve

implementing predictive analytics to flag up issues ahead of the point when demurrage charges are incurred. Co-ordinated interaction ensures the supply chain operates as smoothly as possible and resolves the kind of problems that can never be planned out of existence.

Harnessing collaboration

Another example: Kuehne + Nagel worked with a long-standing client, a leading imaging solutions and technology group, to review its complete inbound supply chain, involving shipments all over the world. By identifying and evaluating areas for possible improvement, as well as any potential risks, we were able to lower costs by 17%, but also reduce lead times and the number of containers used, shrinking the client's carbon footprint. Our 4PL team is able to deliver so effectively because we have the supply chain experts, engineers, project managers and innovators that the process requires. Comprehensive understanding can only come from collaboration, bringing together the skills needed for a common purpose.

We are convinced that the supply chain of the future will be shaped by partnership infrastructure, digital infrastructure and benchmark data, but especially by the collective talent we have at our disposal. Our 4PL capabilities, our shared expertise and resources, give us the capability to deliver sustainable value to your business.

Conclusion

In a climate of more unpredictable end-customer demand, supply chains have become an important strategic asset. To give one example, on occasions when trade disruption and supply chain turbulence have soared, we have been able to handle the sharp increase in deviations across clients' end-to-end supply chains – without any loss of productivity or performance levels.

As an innovative 4PL provider, Kuehne+Nagel achieves this by transforming supply chains from process-driven legacy systems to ones driven by executable data. That means deploying innovative digital technologies: Internet of Things monitoring systems to track temperature and geolocation during transportation; external data integration for risk identification and management; and artificial intelligence for advanced pattern recognition to assist in performance management. Ultimately, it is all about providing the right insights needed for sound and rapid decision-making. At Kuehne+Nagel, we have an open-minded approach to innovation. While we develop some of our digital solutions in-house, we also combine them with au-

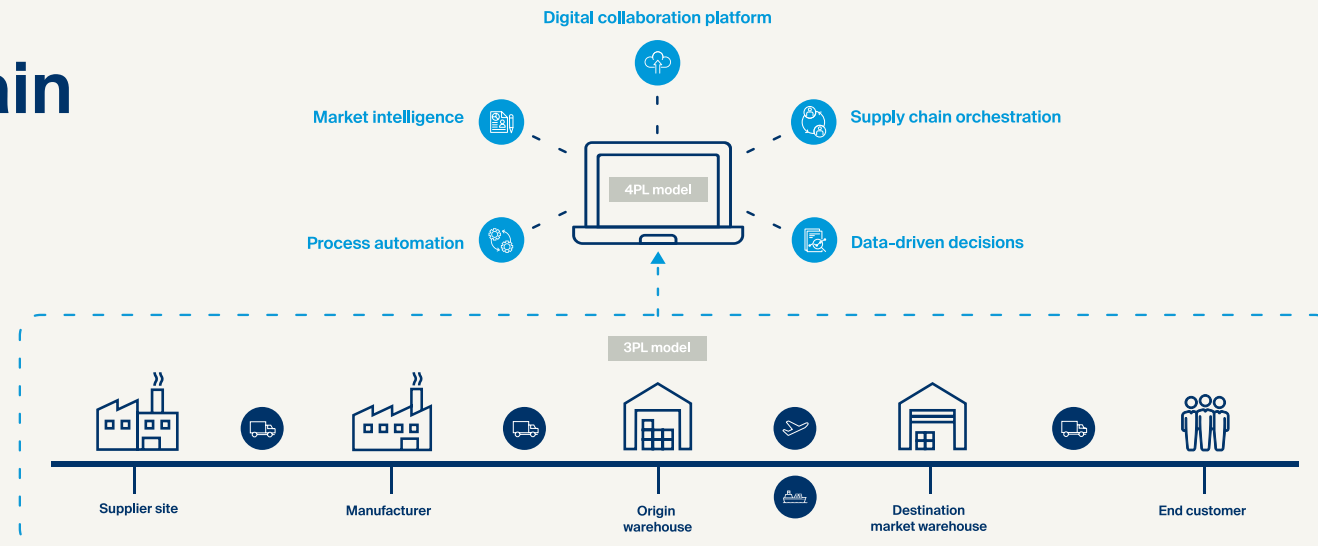


dited and tested technologies from a wide range of partners to enhance our client offering. That means you get the optimum mix of solutions to help generate added value for your business.

With our technological toolkit, you have access to historic data such as performance levels and high-grade market knowledge in combination with real-time insights such as geolocation granularity – these assets provide timely, relevant and accurate information at any moment.

A data-driven supply chain will always require a di-

4PL Supply chain orchestration



verse set of supply chain skills to draw maximum advantage of the innovations and to realise their practical benefits. Technology is good at gathering and classifying large volumes of data enabling informed decisions, automatically performing repetitive tasks and prompting calls to action. However, it requires key skills to use that digital assistance to make decisions that convert into practical business benefits. Here the 4PL offers the right blend of analytical, functional, technological and managerial skills - a team

with the capability to orchestrate the supply chain process end to end in collaboration with all stakeholders.

Kuehne+Nagel's 4PL division, drawing on an efficient global network, carefully chosen logistics partners and technology that meshes with human talent, gives you, our clients, the edge you need. We help you become more resilient and more competitive, turning your supply chain from a necessity into a competitive advantage.

**Want to discover
more about our 4PL
services?**

Reach out to us here →



About us

Kuehne+Nagel is one of the world's leading logistics providers, with a network of more than 1400 offices in over 100 countries. 78000+ employees worldwide are dedicated to providing our customers with innovative transport services and logistics solutions. Local specialists ensure that Kuehne+Nagel delivers according to our customers' needs and in compliance with all regulations and industry requirements.

Learn more about our services at → kuehne-nagel.com