How resilience forms the strongest link in the digital supply chain

Recent times have brought the importance of supply chain resilience into even sharper focus

Organisations that had already built resilience into both their technology and operational networks are weathering the turbulent times of the coronavirus pandemic. For others, it has been a huge wake-up call.

As we now stand back and attempt to regroup, rebuild and regenerate, every business has a chance to reflect and decide how to become better prepared.

This is the point at which organisations in every vertical market should realise that resilience needs to be built in at a granular executional level. It is a function that should apply to and connect with the architectural foundations of every process in the company. It is not some sort of dial or switch that you simply turn on or up at the start of a crisis, whether it be a global contagion or some other form of economic upheaval.

Shape of change

But before we consider the nature of resilience, we need to decide what we really mean by "change" itself to understand the various forms it manifests itself in.

At the force-majeure level, there is sudden catastrophic change, the likes of which we have of course witnessed in 2020. Outside pandemics, we should also include other so-called black swan events that disrupt supply chains, such as a sunken container ship, a hurricane, or perhaps a widespread contamination incident.

While these massively disruptive and dreadful events typically cause chaos and the loss of life, they are comparatively infrequent and so, in any normal world, they don't threaten the long-term viability of a business with the same types of market forces and fluctuations that emanate from deeper-set market trends. There are more ground-level changes in demand patterns that nibble away at margins and service capabilities slowly. Less cataclysmic, these changes can ultimately have even more impact than a hurricane.

Knowing how and why change itself occurs, and what shape it comes in, can help us to build a resilient supply chain capable of driving business operations today, with a constant eye on every variable factor that could impact business tomorrow.

Visibility, intelligence, digital connection

A resilient supply chain is based on three core capabilities: visibility, intelligence and a digitally connected ecosystem. To restate these cornerstones in more depth, we are talking about end-to-end real-time visibility; intelligence across root-cause identification, exception detection and resolution management; and an exceptional ability to execute through a digitalised ecosystem that provides a path to autonomous "sense and respond" activities.

Taking each of these elements in turn, let's look at visibility. In a traditional business model, an enterprise bases its visibility only on what its suppliers are telling it. You don't really know where your order is or when it's going to arrive. However, cloud-based supply chain networks offer the opportunity for all parties to view and interact with one single view of an order in real time. The net result is that the business, its suppliers and its carriers operate using a single instance and version of data: a single source of truth.

This singularity is important. It cuts out uncertainty, delays and eradicates separation so there is little or no contingency factor in daily operations. But visibility needs to run end to end for true clarity. The business needs to know the impact of its actions upstream, on its suppliers, and as far as possible downstream into its sales channel and customer base.

Additionally, end-to-end visibility needs to happen in real time, that is all of the information relating to all supply chain transactions, movements, price fluctuations and so on needs to be available all the time, in real time. Without real-time, super-high data quality, it is not possible to drive the supply chain by exception and take advantage of machine-learning technologies.

Intelligence to separate the noise

As the resilient supply chain company moves forward, it has the advantage of software algorithms that are able to detect events which can cause disruptive issues. It's important to remember there will always be an element of "operational noise" throughout both the physical and financial supply chain, so the organisation will need to qualify just how much noise it can live with in the normal course of business.

At this point we can then drill down into the root causes behind any single event. When there is a shortage of materials for a production plant, or perhaps a shortfall in the supply of finished materials for a retail store, we need to understand the 'why' factor behind these events. Knowing the difference between a shortage caused by a shift in market demands and scarcity resulting from a container ship being stuck in a port is fundamentally important.

The real intelligence comes from being able to group together different events happening in various locations around an organisation's total global supply chain. If the business can pinpoint the same root cause across multiple operational issues, then it can deliver resolution management more quickly.

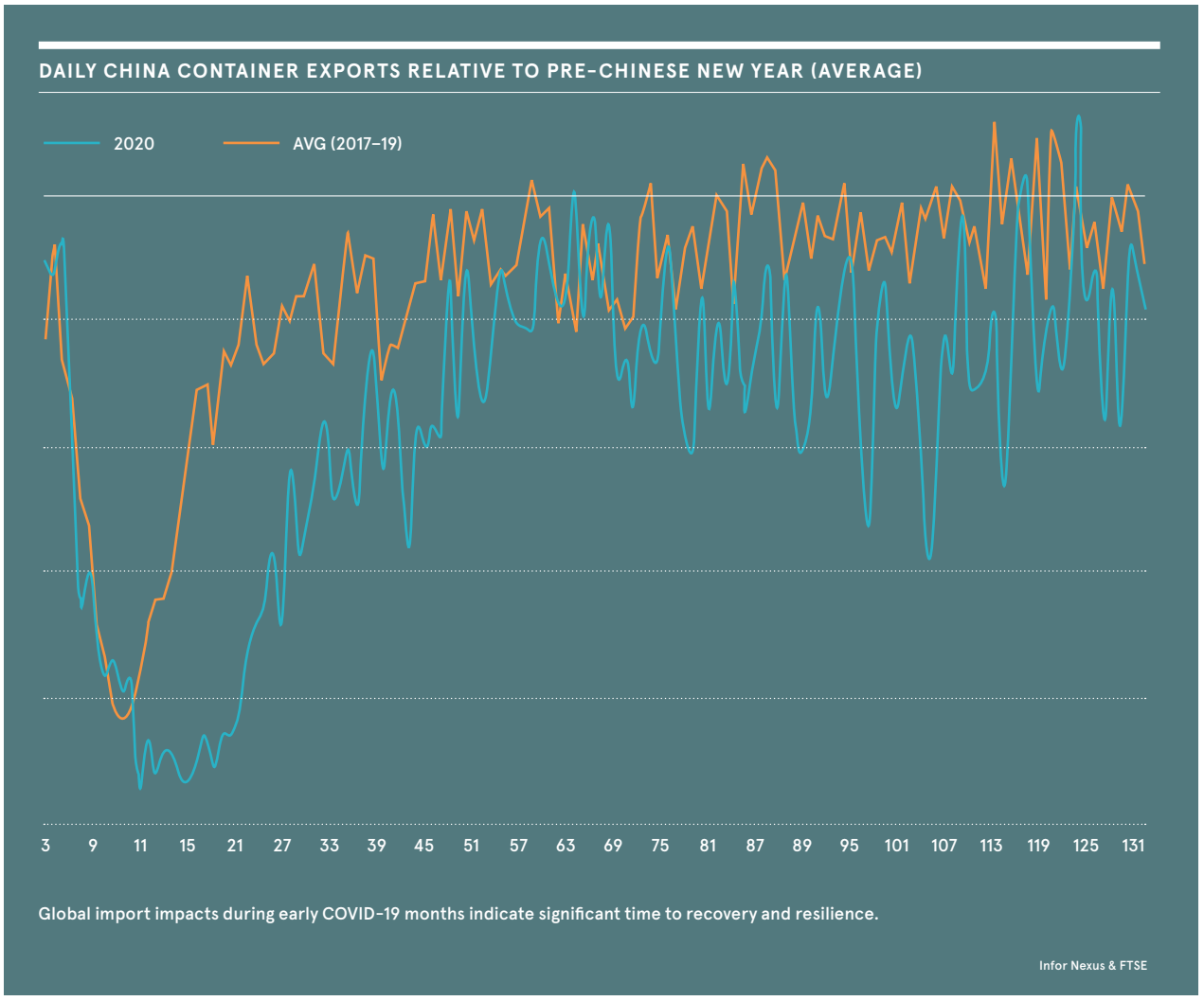
Digital ecosystem

An intelligent resilient supply chain can process thousands of variables and data sources across a single cloud-based platform to help the business navigate forwards. Working at speeds far in advance of any human capabilities, a digital supply chain ecosystem helps all parties connect and collaborate over dates, times, shipping orders, financing and so on. When all partners open up the external-facing parts of their own systems accordingly, business decisions happen faster, with improved accuracy and less uncertainty. This is important because it is uncertainty that breeds contingency and cost.

Onward from Automation 1.0

In the immediate future, more and more of the actions we take inside our most resilient digital supply chains will be carried out autonomously by intelligent agents and smart algorithms. Our physical and our accompanying financial supply chain networks will reflect the automation intelligence already being applied to manufacturing via Industry 4.0 practices.

If today we stand at automation stage 1.0, then business is set to apply more algorithmic intelligence in the future. When and where this intelligence is not just smart, but also resilient, is when it starts to make decisions not just based on short-term prices, supply availability and market demand, but also on perceived business longevity. The core truth is that building a supply chain capable of resilience to 'normal' change will allow a business to adapt to massive upheavals if and when we have to adjust to some wildly different "new normal".



Global import impacts during early COVID-19 months indicate significant time to recovery and resilience.

Infor Nexus & FTSE

> A resilient supply chain is based on three core capabilities: visibility, intelligence and a digitally connected ecosystem

94%

of Fortune 1000 companies experienced supply chain disruption from COVID-19

Accenture, Building supply chain resilience: What to do now and next during COVID-19, March 17, 2020

For more information please visit infor.com/resilience

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