

Eight steps
toward resilient
supply network
management

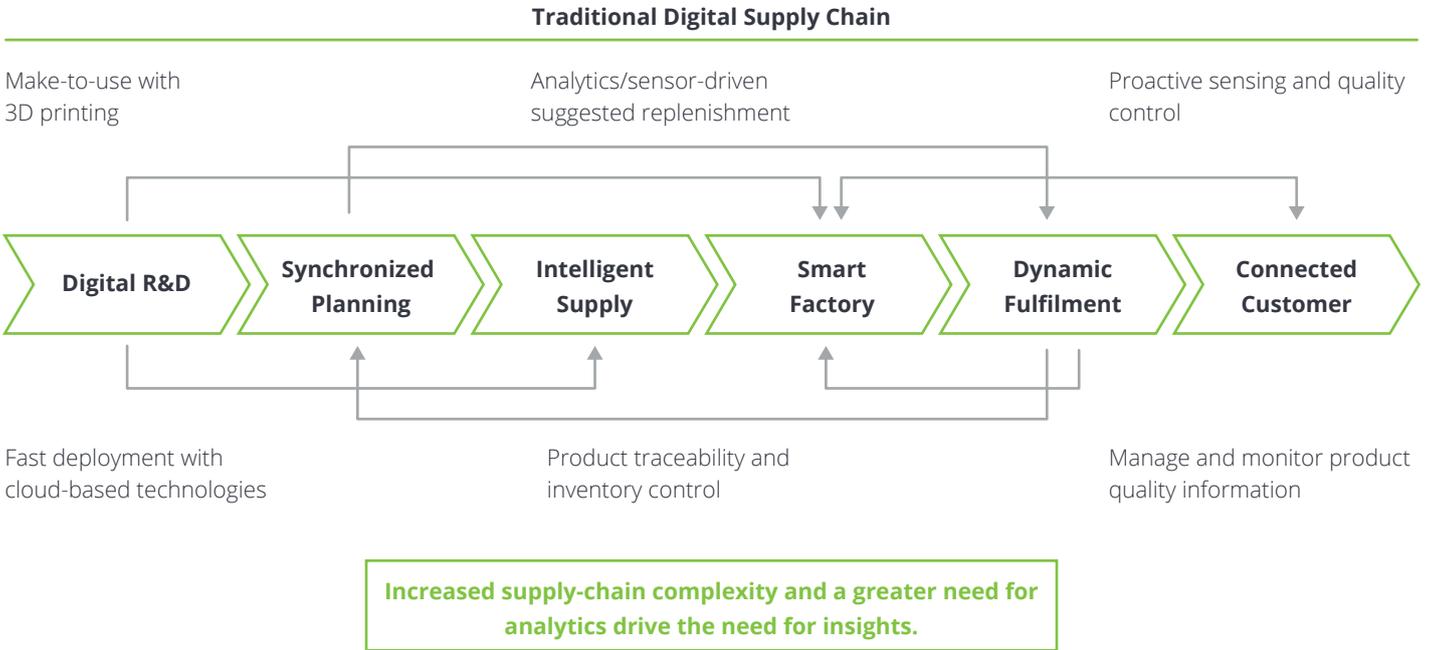
Eight steps toward resilient supply network management

If we think in terms of supply networks instead of sequences while using modern tools and technologies, sustainable resilience is on its way.

The outbreak of a pandemic in 2020 has mercilessly tested companies' supply chains around the world. In the early phase of the crisis, companies had to respond quickly to supply-chain disruptions and prepare for a long period of uncertain trading conditions. This resulted in extreme measures, such as complete shutdowns of production sites, as supplier networks partially broke down and customers were forced to adapt their buying behavior.

Now is the time to think about the lessons learned and what can be done to build a resilient supply network rather than continuing to optimize traditional, sequential supply chains.

Fig. 1 – Digital Supply Networks



Digital Supply Network

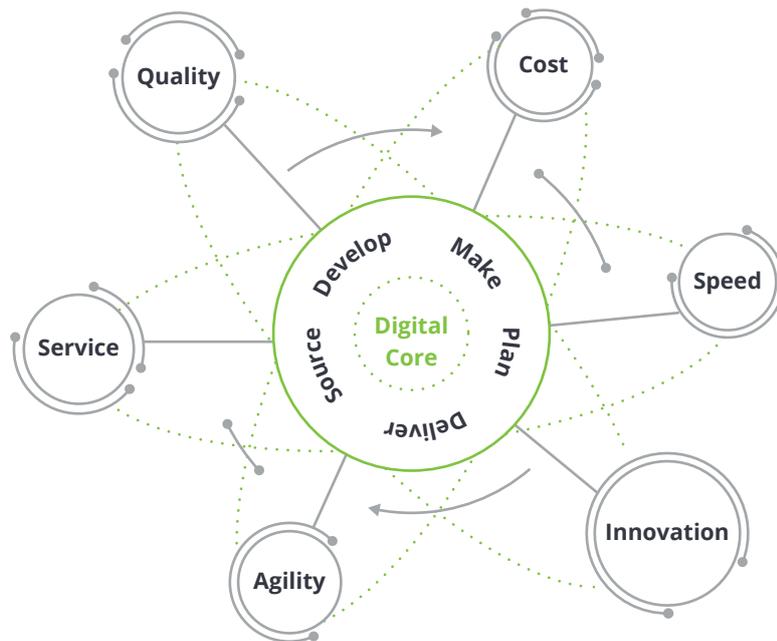
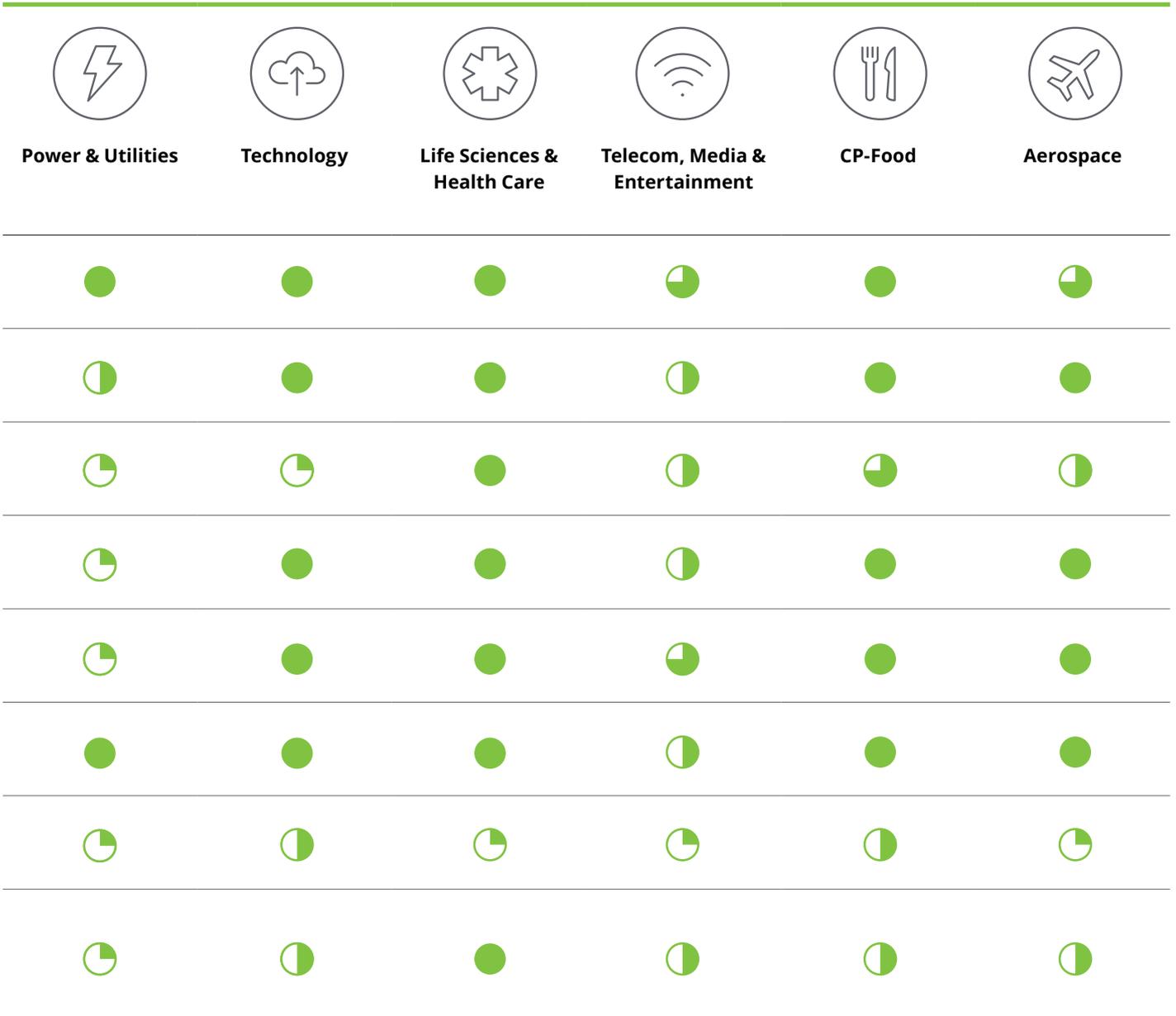


Fig. 2 – Possible Impacts on Supply Chains





Now is the time to think about the lessons learned and what can be done to build a resilient supply network rather than continuing to optimize traditional, sequential supply chains. In fact, agile networks have proven to be more resilient than sequential processes.

Thus, while companies are migrating from managing uncertainty in the “new normal,” a time in which the word “resilience” seems to be the focus, new measures must be

evaluated to create a more resilient supply network that can absorb disruptions more easily.

Our practitioners at Deloitte have identified eight practical, easy-to-implement levers to build such resilient supply networks. The relevance of each lever manifests differently in each industry; as in every team sport, their implementation is only successful when traditional functions join forces with a common goal. This case requires, at

minimum, the joint efforts of Finance, Controlling, Operations, Supply Chain, Transport, Warehousing, and Procurement. The eight levers and their relevance per industry are outlined below and arranged by expected time of implementation (short-term, <1 year; mid-term, 2–3 years; and long-term, 4+ years).





Workforce Protection
(Finance; HR; Production; Supply Chain)

Short-term

Workforce protection primarily means checking the health and readiness of the workforce, especially during a global pandemic. Based on the results, the optimal workspace, production, and shift plans must be redesigned. Ideally, companies automate this process using a tool like the “Restart Now” platform by Deloitte, which helps securely collect data about the current health status of employees and ensures that only healthy employees are entering company buildings. In the case of a reduced workforce, it also helps create the right measures to adapt shift plans and therefore, to build an undisrupted operation.

Industry example

Online retail companies operate distribution centers with many packing stations. Due to workforce protection and physical distancing guidelines, they have been forced to reduce their workforces in most stations, but by actively tracking health information, the right measures can be taken and shift plans can be arranged more effectively.



Supplier Risk Management
(Finance; Procurement; Supply Chain)

Short-term

Supplier-risk management helps predict, anticipate, and identify the risks and vulnerabilities of suppliers (e.g., financially, operationally, and logistically) in the global supplier network. The more advanced this process is, the better the chances of absorbing disruptions in the supplier network. For instance, imagine that a company could automatically search online using AI for early warnings of critical events that may affect its supplier network. That company could react more quickly, such as re-evaluating its supplier selection. This is exactly what Eagle Eye does, Deloitte’s new state-of-the-art AI tool.

Industry example

An automotive OEM’s production depends on parts from a country in Asia, but due to the countries specifics or other external or internal factors, the company is about to enter into operational or financial distress. The OEM is informed early enough by “Eagle Eye” so the OEM can start to identify valid alternatives for those parts sourced in Europe or anywhere else.



Transportation Mix
(Logistics; Procurement; Supply Chain)

Short- to mid-term

A diverse, flexible, state-of-the-art mix of transportation modes is key to risk mitigation when dealing with emerging transportation constraints (locally and globally), production-restart issues, and personnel uncertainties. The capabilities of companies to evaluate and adapt transportation modes quickly is thus a decisive factor in navigating crises, such as a global pandemic. Currently, logistical companies are expanding freight-train connections between Germany and China, which speeds up delivery times and overcomes capacity shortages. The development of automated, autonomous, alternative transport modes enlarges offerings as well. Currently, drones have successfully been demonstrated to overcome risks in last-mile delivery in areas with high densities of at-risk groups. Deloitte can help set up a drone logistics network or select the best mix of transport modes.

Industry Example

Many industries had to shift to charter cargo planes or train connections as belly cargo became practically unavailable. Food and medical delivery in at-risk areas has been conducted via automated drones to guarantee supply.

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**Supply Chain Control Tower
(Logistics; Procurement; Supply Chain)**

Mid-term

A control tower sets up real-time, end-to-end supply-chain monitoring of status of plants, transport availabilities, critical parts, suppliers, and customers with early-warning indicators and predictive monitoring. It continuously tracks the signals of specific business issues from their symptoms to their root causes. This deepens transparency, accelerates reactions to disruptions, and facilitates preparation for necessary production scaling after lockdown measures. By leveraging intelligent data analytics and external information sources, a supply-chain control tower creates actionable insights. To provide tailored solutions and fulfill customers' specific needs, Deloitte collaborates with renowned software and industry partners.

Industry example

An automotive OEM started utilizing a control tower to monitor its inbound supply chain, and since then, it has had full transparency of goods locations and can intervene when delays occur.

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**Predictive Management of
Exceptions (Logistics; Procurement;
Supply Chain)**

Mid-term

The ability to anticipate potential exceptions early rather than reacting to them ad hoc based on solution scenarios is the main task of predictive management. The multidimensionality of supply chains and the shift to multilayered ecosystems, which affects supply chains, complicates planning and requires high supply-chain transparency to mitigate risks accordingly. A major challenge in this area is managing data for risk assessments. Accurate, up-to-date information on the performance of suppliers and clients as well as exchanged documents is necessary to solve potential problems quickly or to identify them before they occur. Data preparation is just as important as the analysis of the resulting information to drill down to root causes. On such a basis, (partially) automated monitoring and predictive risk assessment can be carried out. B2B transactions are monitored in real time to ensure compliance with business rules, automated warnings, or completing missing information if transactions do not run correctly or in the most effective way. Adequate solutions provide opportunities for transparency throughout the supply chain and are starting points for predictively managing exceptions.

Industry example

The supply chain control tower can be equipped with AI functionality in order to enhance operational and planning activities. So an infrastructure provider can predict e.g. how and when certain transport boxes will be collected, in order to optimize the utilization of its assets on an E2E basis.

6

**Mid-Term Simulation & Planning
(Procurement; Production; Product
Management; Supply Chain)**

Mid-term

Things can quickly fall apart. For example, borders might close, goods in transit might not reach their destinations, and demand might change drastically. To improve resilience to such supply-chain disruptions, simulating crisis-response scenarios in advance is crucial. To help companies with this, Deloitte has developed a supply-chain restart and ramp-up simulation tool. The fast-track simulation approach defines scenarios on the overall network to identify potential risk areas that depend on fluctuating demand in distinct geographies, factory capabilities, and what can be produced.

Industry example

In any production industry, the supply of certain products is essential for sales fulfillment. If certain parts cannot be delivered, production must be adapted to produce as many items as possible to fulfill the maximum order size. The supply chain and its capacity to deliver plays a critical role in this process. Simulating production and hence the need for transportation is an essential capability for automotive, retail, and chemical players.

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Warehouse Management (Logistics; Supply Chain)

Short- and long-term

Companies can adjust the functions of their warehouses and physical warehouse footprints to prepare for and react to supply-chain disruptions. One functional change, for example, is shifting from an inventory-keeping warehouse to a transshipment/cross-docking warehouse or vice versa. The physical footprint of warehouses in a company's network could be adjusted by size, number, and geographic spread. Once disruptions occur, a company should first focus on short-term measures (functional warehouse adjustments) while developing a strategy to move its physical warehouses closer to its customers to mitigate mid- to long-term risks. The decisive question is what measures are right. Deloitte closely collaborates with professional software enterprises to find specific AI-supported answers to this complex question.

Industry example

Companies with global footprints, such as automotive OEMs and chemical enterprises, operate warehouses in their greatest markets and use them to supply surrounding markets. In case such a main hub has to be shut down, these smaller markets cannot be supplied anymore. Due to transportation costs, supplying those small markets from another hub might not be profitable; hence a warehouse strategy should encounter for such an event.

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Integrated Supplier Platforms and Broader Supplier Bases (Logistics; Procurement; Supply Chain)

Long-term

An integrated supplier platform aims to reduce communication and collaboration barriers between a company and its suppliers. Thus, it is a key enabler to transform a regular sequential supply chain into a supply network (i.e., from 1:1 to N:N). Moreover, the platform ensures that information is exchanged in a standardized way, which makes collaboration more efficient. To ensure that this dynamic action-and-response system between all parties involved works best, a great level of trust is a fundamental requirement. Suppliers that are part of such an integrated supplier platform are contributing to a more resilient supply network while simultaneously benefiting from it by sharing and receiving information more frequently. Both sides can plan their supply and sales more precisely in advance, even in the case of adverse global or local effects.

Industry example

A heavy equipment machinery manufacturer has various suppliers for a vast number of different parts and raw materials. Once a global crisis like a pandemic disrupts the supply chains of those suppliers, the manufacturer is left with uncertainty and different inventories available.

Furthermore, in case crises are looming, a greater supplier base enables companies to shift orders to a different supplier. Therefore, a more broadly geographically distributed supplier base also reduces risks and dependencies, such as for critical parts. AI-driven tools can help accelerate this procurement process and therefore enable companies to switch suppliers more quickly, which increases the resilience of the entire supply network.

In such a case, an integrated supplier platform would enable the suppliers to exchange information about the inventories of dedicated parts as well as raw materials to complement each other. A network is much stronger than a 1:1 relationship – it just has to be used!



Conclusion

The pandemic has revealed that supply chain resilience has not yet fully matured. Certain industries have made promising progress, but much room for improvement exists, especially with interlinking crucial suppliers to ensure resilience across the whole supply network. Although this journey will take time, it is important to move forward with a targeted approach while using the eight levers and their respective tools. Deloitte can be a reliable partner to make this journey successful by helping implement the immediate levers first followed by the remaining mid- to longterm levers.

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