SUPPLY CHAIN ORCHESTRATION

The quest for smart, connected, end-to-end supply chain management

THE DESTINATION – WHAT IS SUPPLY CHAIN ORCHESTRATION?

The oldest and most enduring type of story is that of a quest. In a quest, the lead figures make a journey, overcoming threats and obstacles along the way, to reach an objective that often benefits not just them but many others. Think of *The Lord of the Rings*, for instance.

So much in business is also like this. We have a dream, a destination, and we put in the effort to get there. Supply chain orchestration is a case in point. When everything works together seamlessly, everyone wins. But getting there: that's the challenge. That's what this article is about.

A quest needs a goal, so let's start by defining terms.

Supply chain orchestration is about reorganizing supply chain roles, processes, and technologies to break down silos between disciplines, remove friction, and establish an operational and financial flow from end to end – from planning through to delivery. It's the result of a program of comprehensive optimization and transformation, with key metrics including cost, quality, customer satisfaction, and sustainability.

Supply chain orchestration relies on the integration and utilization of various technologies, such as:

• **Enterprise resource planning (ERP) systems** – these systems help manage and integrate core supply chain functions such as procurement, production, inventory, and distribution. They provide a foundation for data management and process coordination

• **Transportation orchestration platforms** – these software suites support efficient planning, execution, and monitoring of logistics flows across the supply chain network. Key ingredients are end-to-end visibility and milestone prediction, risk monitoring, and stakeholder collaboration

• **Advanced analytics and AI** – technologies such as data analytics, machine learning, and artificial intelligence (AI) play a crucial role in supply chain orchestration by analyzing data, predicting demand patterns, optimizing inventory levels, and enabling real-time decision-making. This needs to be enabled by a holistic data management approach to ensure high data

• **The Internet of Things (IoT)** – IoT devices and sensors can collect data throughout the supply chain, providing visibility into operations, tracking shipments, monitoring conditions, and enabling predictive maintenance.

Using these technologies to make the supply chain seamless, smart, and responsive can transform the role the function plays in the enterprise. It means the supply chain can deliver value at levels that previously could only have been imagined.

THE ITINERARY –
OBSTACLES EN ROUTE

If supply chain orchestration is the destination, what's the starting point? Many organizations start from a position of challenging circumstances, and have quite a distance to travel (see Figure 1).

In our view, the fundamental issue is a lack of cohesion. While there are many applications and features that work well in their specific use cases, the integration of these applications and the underlying processes into one consistent operational platform is a significant challenge.

A good analogy for supply chain orchestration is the current state of autonomous driving. Most of us currently benefit from a wide range of applications supporting our driving

experience, from distance sensors and cruise control to lane assist and emergency brake assist.

But fully autonomous driving has not yet reached development maturity. That's because all these applications need to be fully integrated. In the meantime, it's still down to the driver to bring everything together and make the right decisions based on the information he or she receives from them.

This level of digitally-assisted driving is pretty much where successful supply chain managers are today – digitally-assisted supply chain management, rather than a fully integrated, smart, and autonomous process.

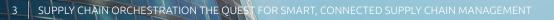### Figure 1. Supply chain transformation – where we are now?

95%
of companies will fail to enable end-to-end resiliency in their supply chains by 2026[1]

20%
of organizations consider they are equipped in handling supply chain challenges consistently[2]

68%
of organizations fail to report positive returns on their digital investments[3]

For instance, human intervention is still typically required to translate demand forecasts into logistics requirements to ensure there is sufficient capacity, and also to avoid excessive premium freight charges.

To extend the comparison with orchestration, the human supply chain manager is acting not as a conductor in an orchestra, but rather as a high-speed composer, constantly adapting the tune to the current situation. This is because the manager is in firefighting mode: information is often only available after the fact, when it's too late for them to intervene proactively.

Why is this the case? Why are so many supply chains disjointed? There are several reasons:

- **Data quality –** many organizations face challenges with the completeness, correctness, and timeliness of both their master data and their transactional data

- **Inconsistent processes –** across departments, regions, or product segments can have many root causes, such as past acquisitions, regulatory requirements, or varying supplier engagements. Whatever the case, inconsistency makes it difficult to create a comprehensive and uniform approach to supply chain management

- **Organizational silos –** supply chain orchestration requires in-depth cross-departmental collaboration. When different functions work in their own way and to their own agendas, it creates real difficulties

- **Disconnected legacy systems –** a lack of integration at system level makes it hard to orchestrate a supply chain consistently across different departments

- **Stakeholder issues –** supply chain orchestration involves coordinating and aligning the activities of multiple stakeholders, including suppliers, manufacturers, logistics providers, and retailers. Collaboration and trust-building among these parties are essential for successful orchestration, and for some organizations, there is still work to do here

- **Scalability and adaptability –** as supply chains evolve, supply chain orchestration needs to be scalable and adaptable to changing business requirements, new technologies, and emerging market dynamics. It can be difficult for some organizations to develop a target operating model that is not only cohesive, but that is also able to adapt and grow in line with business needs. For more detail specifically on IoT and blockchain, see the separate text boxes.

THE JOURNEY – ROUTE MAPS AND TRAVELING COMPANIONS

To overcome these obstacles, organizations need to plan a route that incorporates several key elements.

The foundation is to build an IT architecture that is data centric, supporting integrated process architectures and with overarching governance. Cross-departmental collaboration will of course be needed, particularly as part of a change management program to gain buy-in and ensure compliance across the stakeholders in the supply chain.

In our opinion and experience, proceeding incrementally is the best way forward. Rather than aiming to build a fully digitized, autonomous set-up from the start, a step-by-step approach delivering consistent gradual improvements gives a series of quick wins and provides encouragement to team members across the supply chain ecosystem.

A route map such as this is essential. It's also a good idea to have traveling companions to accompany businesses to their destination

– people who understand the organizations' strategic ambitions and who can be on hand during the journey to help achieve them.

Capgemini and Kuehne+Nagel have recently entered a strategic partnership. For Kuehne+Nagel, supporting and enabling enterprises means providing a proven supply chain management platform integrating multiple data sources and enabling stakeholder collaboration. It also means the provision of supply chain expertise with a global footprint, meaning there are people on the ground who understand the supply chain inside out.

It's a similar combination of people and technology at Capgemini. A target operating model is created, providing an end-to-end view that enables full orchestration of the supply chain, with an equal emphasis on up- and downstream activities. This goes beyond the traditional order-to-cash or purchase-to-pay approaches, which tend still to be somewhat siloed. Instead, the focus is on delivering value across the entire process, from forecast through to collection.

Capgemini and Kuehne+Nagel – a strategic partnership

Capgemini and Kuehne+Nagel's partnership benefits both organizations and their customers.

It enables Capgemini to execute a holistic supply chain offering, from consulting, back-end services, and technology through to fulfilment and logistics; and it enables Kuehne+Nagel Integrated Logistics to enhance the service it provides to a rapidly growing market.

By combining their expertise in areas such as demand/supply planning, order fulfilment, logistics, AI/machine learning, supply chain data, and procurement, the two organizations aim to assist their clients in building a frictionless enterprise and moving towards true touchless supply chains.

JOURNEY'S END –
UNPARALLELED SUPPLY CHAIN ORCHESTRATION

What could the goal of supply chain orchestration look like? Here are just a few examples:

• Supply planning and logistics management speak the same language, enabling proactive management of required logistics capacity and throughput rates based on market-specific sales forecasts

• Critical stock levels are optimized based on an integration of demand forecasts and current stock levels as well as a view of inventory in transit with real-time ETAs

• Communication is integrated between short-notice sales/ purchase order amendments and transportation planning

• Complex logistics execution is transformed into a high-performance freight audit and settlement approach.

THE PARADIGM OF
PARTNERSHIP

In this article, we've outlined the goal of supply chain orchestration, the typical challenges to be overcome, the route organizations need to take, and how third-party support can help them get there.

Supply chain orchestration requires collaboration – not just across an organization's departments, but also across the entire supply chain ecosystem and different service providers.

It's a paradigm of partnership. Working together on this quest, everyone can achieve intelligent, next-generation supply chain performance.

ABOUT THE **AUTHORS**

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Sources
1 "Gartner Predicts 95% of Companies Will Have Failed to Enable End-to-End Resiliency in Their Supply Chains by 2026," Gartner, 2023
2 "How greater intelligence could supercharge supply chains," Capgemini Research Institute, 2022
3 "Why Digital Transformation of Supply Chains Fail," Everest Group, 2022

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