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WHITE PAPER

Supply chain visibility

Avoiding short-sighted goals

Supply chain visibility should lead you down a path to data connectivity, not just information gathering. Addressing the connectivity issue in a way that provides quick access to multi-enterprise supply chain data not only increases visibility but also enables core capabilities to address top business challenges.

Supply chains are now more complex and global, not only because of outsourcing, but also as a result of companies' broader market penetration and expansion. The consequence has been a substantial increase in the number of products that need to be planned, the number of supply chain nodes that need to be connected, and the volume of data that is represented in the multiple data systems among those nodes.

It is the complexity of this connectivity problem that is at the core of the visibility challenge and that is represented by Stage 3 (Integrate) of Gartner's demand-driven value network (DDVN) maturity model. Based on results for Gartner supply chain client's supply chain maturity self assessments, Gartner stated: "Approximately 67% of manufacturers that self-assessed their supply chain capabilities rated their overall supply chain maturity below 3.0 — what we define as an integrated supply chain."[1]

It is the integration of the various internal and external supply chain nodes - or rather, the lack of it - that acts as a barrier to achieving higher levels of supply chain maturity. By solving the connectivity challenge, you can also solve the visibility challenge. But just as Stage 3 (Integrate) is not the end goal for a demand-driven supply chain, visibility should not be the end objective. If accomplished in the right manner, visibility becomes the precursor to enabling additional competencies that will propel companies farther along their supply chain maturity path.

Are we stuck because we have had short-sighted goals

When you ask those seeking visibility what they are trying to accomplish, the disconnect between the limited definition of visibility and the goal becomes clear. If the answer indicates a desire to better manage the supply chain, to make improved decisions, or to know sooner in order to be able to act faster, then visibility is but the first step in that journey.

While companies must have end-to-end visibility, the ability to leverage that visibility for deep analysis and quick action is where true value is achieved.

Supply chain visibility alone won't yield effective supply chain orchestration; it is a prerequisite capability among others.

Supply chain decision making is complex and must be supported by more than a series of status reports. It requires the ability to interact with data in a collaborative manner, performing real-time calculations, data modeling, and simulations to project results. There must be the ability to alter and analyze data across the extended supply chain network, not just see it.

Only when a definition of visibility is established that includes the requirements for associated data and analytical capabilities will a company achieve the capacity to:

- Receive actionable and predictive insight
- Evaluate the impact of decisions across organizational boundaries
- Orchestrate a collaborative trade-off analysis between several trading partners
- Make enterprise -wide, risk-adjusted decisions quickly

[1]M. Dominy, K. Chadwick, J. Loveland, *2015 Strategic Roadmap for Integrating the Supply Chain*, Gartner, 28 September 2015

The different types of visibility

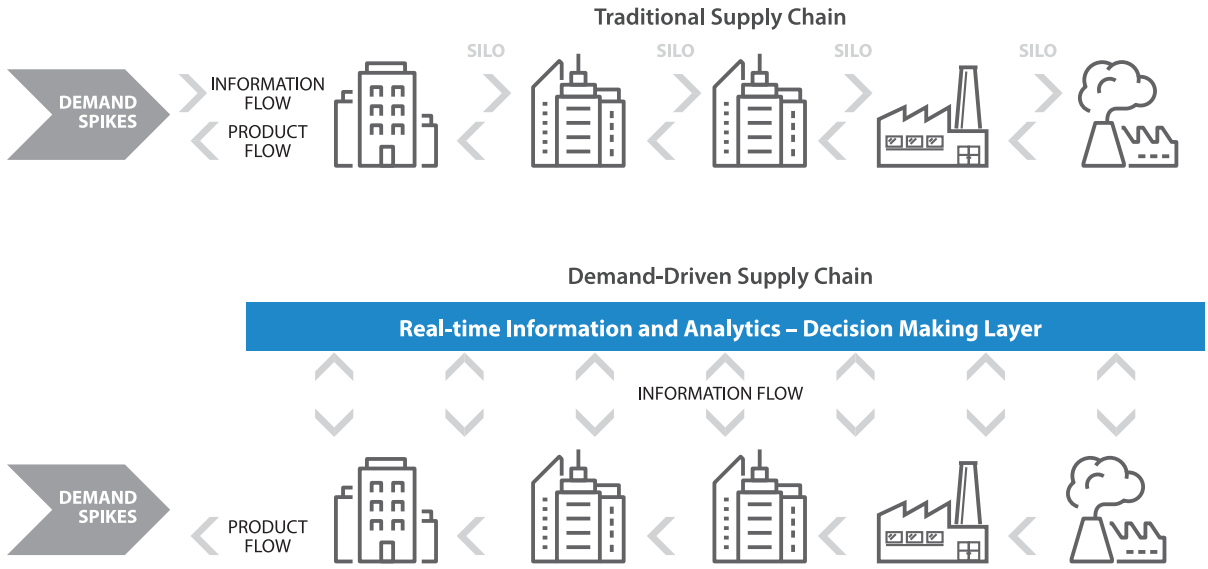
- **"How I did"**
  This is the traditional domain of Business Intelligence and Data Warehouse tools focused on metrics such as supplier performance. This is what you typically get out of your ERP systems. It is of little help in situations of 'clear and imminent danger', but has great value in setting policies to improve performance over the longer term.

- **"How I am doing"**
  This is the focus of much of the current hype in supply chain visibility. However, this status report type view only provides visibility between business functions and/or organizations, not holistically across functions and/or organizations, and it does little to enable one to accurately see ahead.

- **"How I will do"**
  This is where the true value of visibility becomes apparent. This end-to-end visibility gives advanced warning to future danger and provides a runway for course correction to avoid the risk or take advantage of an opportunity. This type of visibility inherently spans across organizations and includes analytics and modeling capabilities to project results of what-if simulations.

The data harmonization problem

At the heart of the supply chain visibility and cross-functional (or multi-enterprise) connectivity problems, is the necessity for data harmonization across multiple systems of record.



Demand driven supply chain

Organizations need a solution that can be overlayed across systems versus filling the gaps between systems. This requires representing the data within the nodes and running analytics all the way across the network, as opposed to trying to flow data through node-by-node and performing siloed analysis each step of the way.

In large part, the key to data harmonization is achieving consistency in:

- Item identification
- Unit of measures and,
- Time buckets

Can I do this with ERP?

Many companies cannot rely on ERP alone to solve this issue because it is infeasible or cost prohibitive, or both. Many companies have several instances of ERP, with each one containing and maintaining information in multiple formats. Frequently the manner in which the ERP systems have been deployed or acquired is part of the problem. Often, organizations employ 'shadow IT' as a means to gain the visibility they need. The planning layer, which is even less harmonized or standardized, only adds to the complexity. While consolidating down to one ERP instance can be a step forward, given the prominence of manufacturing outsourcing, global expansion, and acquisition strategies in many industries, the reality is that diverse data sources are, and will remain, unavoidable. Most business people consider this an issue for IT to solve, but it won't disappear until the business side of the organization makes solving the data issue their priority.

What will the future data layer look like?

For most, the translation of a demand signal into an appropriate supply signal has to take place at one node of the supply chain before the signal can be propagated to the next node. It is difficult enough to do this with standard products at a finished goods level, let alone with a configurable product that is made up of hundreds of components, in a highly outsourced and distributed supply network. In such a complex environment, there are two layers that must be considered:

The information layer: In today's supply chain networks, there is a need for a real-time information layer. For far too long, companies have tried to enable this layer with email and Excel. This is a clear indication that the core transactional layer is not satisfying the need. The dominant mechanism for moving data between functions and organizations is still overnight (at best) EDI between ERP systems. The use of email and Excel is merely a mechanism to try to overcome the limitations of operating an end-to-end supply chain with cascaded EDI transfers.

The analytical layer: Even if one manages to get beyond email and Excel in creating an information gathering layer, the challenge then becomes ensuring any calculations performed on that data are consistent with the calculations performed by the respective ERP at each node. It defeats the whole purpose of the "real-time information" layer if at each level, the MRP or planning analytics have to be invoked in each of the ERP systems. Yet this is necessary to translate demand into required supply in a manner that is consistent with the underlying systems.

The bottom line, a truly functional demand-driven value network (DDVN) must not just contain the data, but must also be able to emulate the respective policies, bills-of-material, routings, sourcing rules, lead times, capacities, and other aspects of the supply chain model.

The ultimate vision

The goal of supply chain visibility should lead you down a path to data connectivity, not just information gathering.

Ultimately, effective business orchestration requires companies to eliminate the need to tap into multiple systems or integrate data in various formats from several applications that each support only a single function or layer in the broader supply chain network.

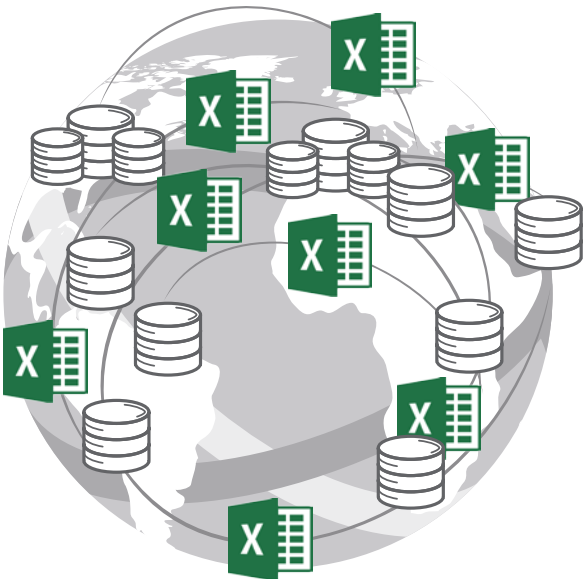
In the end, having quick access to multi-enterprise supply chain information and analytics can set the stage for more meaningful and effective interactions between functions and between partners based on informed decisions in which the impact of changes is understood and action plans are clearly defined.

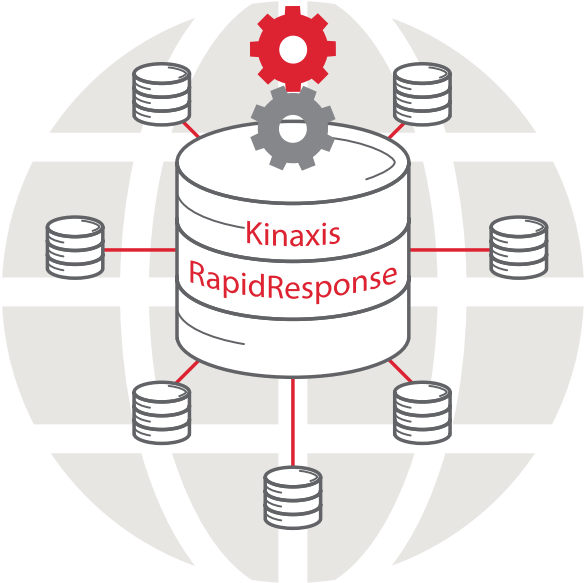
The RapidResponse solution

Kinaxis® RapidResponse® provides supply chain visibility, planning, and analytics capabilities that create the foundation for managing the supply chain from a single environment and across business functions, and even trading partners. RapidResponse can enable everyone to work from a single platform to manage, link, align, share and collaborate with data across the supply chain network.

RapidResponse:

- Provides a unified view across the enterprise regardless of the number and location of supply chain nodes and supporting data systems
- Integrates data and policies of ERP and other point systems, resulting in a complete representation of the supply chain
- Emulates the analytics used by the host ERP systems, so when there is a change in demand or supply at any level of the extended supply chain, it invokes all of the embedded ERP analytics of the respective host systems to provide immediate visibility into the impact across the organization
- Extends far beyond static input data to include calculated key performance outcomes (e.g. fill rates, shortages, excess and obsolete inventory, order actions, margin projections, revenue projection) so you can model and represent several states of the supply chain—historical, present, and future
- Supports the configuration of departmental, functional, or user specific supply chain visibility, planning and analysis needs





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About Kinaxis Inc.

Offering the industry's only concurrent planning solution, Kinaxis helps organizations around the world revolutionize their supply chain planning. Kinaxis RapidResponse, our cloud-based supply chain management software, connects your data, processes and people into a single harmonious environment. With a consolidated view of the entire supply chain, you can plan expected performance, monitor progress and respond to disconnects when reality hits. RapidResponse lets you know sooner and act faster, leading to reduced decision latency, and improved operational and financial performance. We can prove it. From implementation to expansion, we're here to help our customers with every step of their supply chain journey.

This white paper is accurate as of the date published and may be updated by Kinaxis from time to time at its discretion.