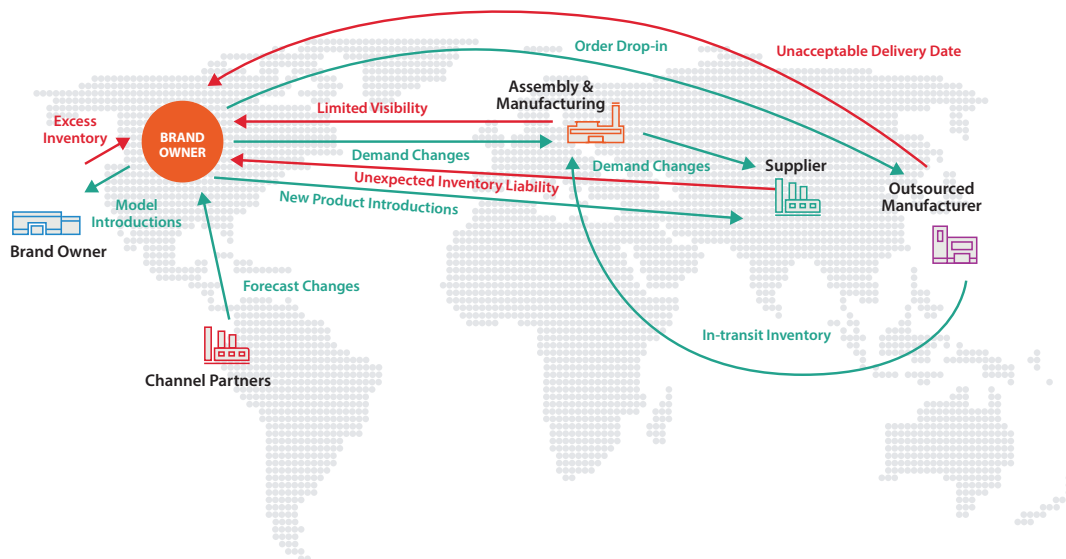KNOW SOONER. ACT FASTER.

One-to-many: Establishing a common platform to address multiple supply chain applications

There's no denying it. Today's widely dispersed supply chains demand more solid response management capabilities and supplier collaboration than ever before. Front-line personnel must be able to make immediate and informed decisions, supported by facts and aligned with business objectives. A one-to-many platform has the power to deliver.

Supply chain management is, by its very nature, a multi-disciplinary business process that touches all operational functions in a manufacturing organization. Clearly, at the heart of the supply chain are both the prediction of future customer demand, and the satisfaction of the customer demand in a profitable manner. In doing so, the supply chain touches Engineering, Finance, Logistics, Manufacturing, Marketing, Sales, and Procurement within an organization.

Because of pervasive outsourcing, the supply chain has gone from being multi-disciplinary to being multi-enterprise. We only have to look at the emergence of Agilent from Hewlett Packard, Freescale from Motorola, and Visteon from Ford as examples of the trend at a company level, and the emergence of China, in particular, as a manufacturing center for confirmation of the pervasiveness of outsourcing and the consequence, namely multi-enterprise supply chains.

Enterprise Resource Planning (ERP) and Advanced Planning Systems (APS) were developed in the 1980's to manage and optimize the manufacturing and movement of goods through an integrated enterprise, which was the structure that existed at the time of design. These systems assume a wide span of control and management of data within the application. The reality of today's distributed supply chain is that most of the supply chain exists external to the organization, particularly for brand owners. Of course, as a consequence, this is true of the supply chain data too. Not only is it external to the organization, it very likely exists in multiple ERP systems, and even in Excel spreadsheets.

Brand owners are still ultimately responsible for delivery of the items bought by the customer. Yet they have never had as little control and visibility into the supply chain that is delivering the product to the customer. ERP systems only give brand owners control over what happens within their organization. When the brand owners manufactured their own products and therefore had full control over the supply chain, ERP systems, and their associated APS systems, could be deployed to control and optimize the supply chain.
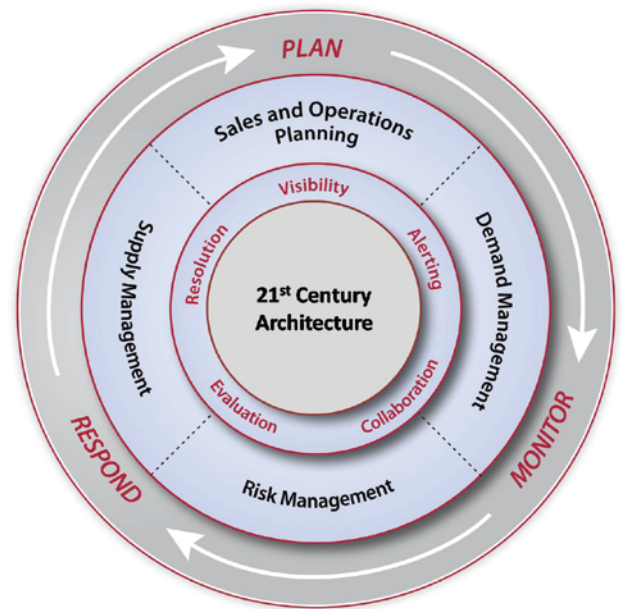
The supply chain has gone from being multi-disciplinary to being multi- enterprise

What is needed in today's dispersed and loosely coupled supply chains are more collaboration, and less control; more coordination, and less optimization. In this way, companies will have the ability to enable their front-line people to use their judgment to make fact based decisions which address the surprise and compromise inherent in today's global, multi-enterprise supply chains. At the heart of delivering these supply chain response management capabilities is the technical architecture of the solutions.

A 21st century supply chain technical architecture

The supply chain data required to make effective decisions, which in an integrated company 20-30 years ago was accessible to everyone in the company, is now scattered amongst the different participants in the supply chain. In the majority of cases, the data will reside not only in several different ERP systems, but often key elements of the data will reside in Excel spreadsheets and other data sources. Even within a single ERP system, several modules may be used to reconcile demand and supply, while another module will be used for supplier collaboration and customer collaboration, yet another module will be used for reporting, and another module will be used for scenario management. The latency inherent in these islands of data, both external and internal to an organization, reduces greatly the timeliness and effectiveness of supply chain decision making, especially given the volatility of today's supply chains.

To address the volatility and dispersed nature of decision making in 21st century supply chains, it is crucial that the many different actors in the supply chain have a shared view and common understanding of the current and future state of the supply chain. Only in this manner can front-line people address the daily surprises presented to them and reach compromise across functional and organizational boundaries in order to make timely and effective decisions that affect both the financial and operational performance of the company.

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Supply chain tools designed to address the issues of the past have concentrated decision making in the hands of a few experts at corporate headquarters. While undoubtedly there is a need for a consolidated corporate perspective, this should be restricted to target setting of overall performance goals, such as margin attainment or customer service performance. The volatility in today's supply chain requires solid response management capabilities that enable immediate and informed decision making by front-line personnel, allowing them to use their judgment, supported by facts.

To achieve this level of involvement requires the capabilities described below. While each of these capabilities is described separately, they are interdependent and it is the provision of the full and integrated set of capabilities that is required to satisfy the business needs of the multi-enterprise supply chain.

Visibility

Without a doubt, the greatest technical challenge of a highly outsourced supply chain is getting access to data – forecast, inventory, in-transit, committed supply, capacity, etc – on which decisions can be made. This wasn't as much of an issue in the days of integrated companies with a single ERP (even though many large companies would have multiple instances of an ERP system across regions or divisions which often did not speak to each other). In today's outsourced world, getting data from many different ERP systems, including those at contract manufacturers, suppliers, and even customers, is a matter of necessity.

Getting access to the data is only the first step. Visibility is only achieved when the data from the multiple ERP systems and companies is "stitched" together so that a part and quantity committed for delivery by a supplier to a contract manufacturer can be associated with an order from a customer in another part of the world. This is not a trivial matter with different part numbers, time zones, and languages being used throughout the supply chain.

Alerting

In a distributed, global environment, in which information latency is endemic given the number of enterprise boundaries through which the data needs to travel, automatically receiving an alert as a Customer Service Representative that an order is going to be late because of a late supplier delivery to a contract manufacturer is of great value. This is especially true when all the people within the supply chain who can affect the issue in some manner, such as bringing in supply from another location or using finished goods inventory in another region, are identified and included in the alert.

Collaboration

Even within an organization, resolution of a business problem almost always requires people from different departments to collaborate in order to reach a consensus decision. It is seldom that a supply chain issue can be resolved in the company's best interests by addressing the metrics specific to a particular department. Seldom by design, and often by happenstance, functional metrics specific to a department will conflict with metrics specific to other departments.

This is when human judgment needs to be brought into play to define alternative ways of resolving the current supply chain issues in order to reach a compromise that is in the best interest of the company. Only human judgment applied through collaboration with all stakeholders, and supported by hard facts, can evaluate several innovative ways of resolving the business issues at hand and reach a viable solution which best serves the interest of the company and other stakeholders in the supply chain.

Evaluation

There are too many nuances and "soft" constraints in global multi-enterprise supply chains to represent in an optimization engine, let alone make it good practice to cede decision making power to the optimization engine. Yet front-line people need a fast and effective way of evaluating the alternatives being proposed to resolve a supply chain issue.

Because many of the decisions affect several of the enterprises in the supply chain, it is necessary to be able to emulate the MRP analytics of all the ERP systems required to resolve a particular issue in a matter of seconds. Being able to emulate multiple MRP analytics in a single system reduces the decision cycle enormously, allowing many more alternatives to be evaluated.

As important to the speed and effectiveness of decisions is the representation of demand, supply, and full product structure in a single data model and system. Being able to manage the entire supply chain from finished product demand at the customer, back through the supply chain to a component required to build the product, and all the intermediate stages of production at contract manufacturers and distribution in a single system is a tremendous boost to productivity and consequently affords companies enormous responsiveness to customer demand and the flexibility in how the customer demand is satisfied.

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Resolution

While it is important that all stakeholders are able to collaborate and evaluate alternative ways of resolving a supply chain issue, equally important is that they do this is in a manner that is consistent with both financial and operational corporate objectives. This ensures consistency of decision making as well as a measure of corporate control over local decision making. As importantly, front-line people have a mechanism for evaluating and comparing the alternative courses of action. Not only can they understand the effects of decisions on their own metrics, but, and perhaps of greater importance, they can also understand the effects of their actions on a wider set of metrics that reflect corporate goals.

One-to-many business value

The core functional capabilities provide a platform in which many applications specific to certain industries or business functions can be deployed rapidly and effectively using a common data structure and user interface, yet allowing for the configuration of company, department, function, or user specific views of data by the end user. As importantly, any changes to data in this type of technical architecture are available and visible instantly to all other users who have the authority to view the data that has been changed and by whom it was changed, thereby not only ensuring rapid and effective data sharing, but also full audit trails which prevent decisions from being made which are not in the overall interest of the company.

The applications include:

- ▶ Multi-Enterprise Visibility & Reporting
- ▶ Inventory Analysis and Positioning
- ▶ S&OP Enablement
- ▶ Order Promising/Global Available-to-Promise/Capable-to-Promise
- ▶ Capacity and Constraint Planning
- ▶ MPS Planning (Demand/Supply Balancing)
- ▶ New Product Introduction and Transition
- ▶ Supplier Collaboration
- ▶ Data Integrity Management
- ▶ Performance Monitoring and Alerting
- ▶ Regulatory Adherence

A new era of surprise and compromise requires integrated and collaborative demand-supply planning, monitoring, and response capabilities. Only a 21st century technical architecture can provide the core capabilities required to satisfy these requirements.

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.