IDC Manufacturing Insights

ANALYST CONNECTION

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The Benefits of Improved Speed in Supply Chain Planning

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In today's manufacturing value chain, the requirement to handle huge amounts of data with as little latency as possible is critical. Hardware advances mean that companies can handle large volumes of data in memory, opening up tremendous new possibilities for analytic applications. When companies use complex analytic algorithms, tuning the hardware and software to optimize throughput is an important consideration as is the ability to integrate the value chain planning model with financial systems and with operational execution systems. The ability to quickly evaluate complete planning scenarios will allow companies to be more responsive to increasingly demanding customers. Having the technology to do comprehensive analysis of complex models to drive a performance-optimized response will be critical to value chain resiliency and financial success.

The following questions were posed by Oracle to Robert Parker, IDC group vice president, on behalf of Oracle's customers.

Q. What would you say are the most significant challenges for manufacturing supply chains today?

A. I would begin with the notion of dimensional complexity. First, expectations among customers have never been higher for products that perform — that meet their specific requirements. That performance expectation extends beyond the functionality and quality of the product to the flawless execution of the order and even to the delivery of services connected to the product. Companies must also be able to execute on this performance promise consistently across all of the global operating theaters and in concert with channel partners. This dimensional complexity coupled with geographic reach brings with it a deluge of information — not just the sheer volume of data but also the speed at which the data is being collected. Successful companies must operate in massively multidimensional value chains through an ability to process large amounts of data in near real time to calibrate plans to performance objectives.

Q. What are the supply chain planning implications of these challenges? What are manufacturers doing to address them?

A. Supply chain processes, especially planning approaches, have evolved considerably over the past several years. While we generally moved from an unconstrained material/capacity planning model to a constraint-based advanced planning model some 10 years ago, most large enterprises have undertaken to expand on that advanced planning capability to be more calibrated to actual demand, to directly impact operational priorities, and to operate in tighter planning windows — from monthly to weekly, even daily. Unfortunately, our supply chain planning aspirations have exceeded our computing capabilities, forcing us to simplify planning models, refresh planning models less frequently, and, overall, compromise business outcomes.

In many ways, this points back to the information deluge I was talking about before. If a company can properly deal with the relative volume, velocity, and variety of structured and unstructured information pertinent to the "near reality" planning models it has envisioned, then performance objectives don't have to be compromised and, in fact, can drive those models. This is now possible as the computing capabilities have caught up, not just the speed of processing but also the ability to handle and analyze large amounts of data in memory. Analytic software, tuned for such advanced in-memory processing, is an essential element to realizing these advanced planning models.

Q. What benefits could firms see by adopting these new practices?

A. A supply chain executive recently told me that his company's supply chain had become like a convenience store — open 24 hours a day, 365 days a year. He was making these comments in the context of the global reach of the supply and also the need to have an integrated view. Having an advanced supply chain model in place delivers better risk management, a more responsive operating capability, and higher customer service levels. Risk management comes down to understanding the probability and impact of an adverse event. If this is well analyzed, the proper mitigating contingency actions can be put into place. Sounds simple enough, but in practice, supply chain executives need to be able to have access to fast-solving, compute-intensive models of their value chains so that "what if"–type scenario analysis can be conducted in multiple simulations to highlight vulnerabilities and evaluate potential impacts.

We see companies wanting to take advantage of improving computing capabilities to do this scenario analysis — not just in long-term planning scenarios that impact supply network planning but also in near-term situations that may impact current period revenue and profit. Of course, near-term responsiveness isn't just about risk mitigation; it is also about making superior decisions based on the informational evidence at hand for better cost, revenue, and inventory performance. Responsiveness begins with visibility; in-memory models with current demand and supply information that allow supply chain professionals to get early insight into the current state. This visibility allows for faster, better decision making, assisted by advanced "next best action" analytics. Having these models in place will yield optimized supply chain results — superior perfect order performance delivered at a competitive cost and supported by the right levels of inventory.

It is important to note that perfect order performance isn't just about better revenue, although that is always important. Consistently superior perfect order performance is also about customer satisfaction, which can have huge implications on long-term profitable growth. Customers don't just expect products and services tailored to their needs; they also expect those products and services to be delivered as promised, making a company's supply chain a critical competitive weapon. A company's customers expect a supply chain that operates without interruption. This requirement changes the approach from batch planning with compromised, latent models to real-time active models that deliver optimized plans, lower risk, and faster response times. These models can now be realized thanks to software powered by advanced computing capabilities.

Q. Does "performance driven" imply better reporting?

A. A company certainly wants to create visibility into results to shape future action. We think companies should consider three things — reporting, planning, and anticipating. Reporting gives a company a retrospective view — what happened. Planning is no longer a detached activity but an active part of managing performance by providing a real-time perspective — what is happening. Anticipating is the ability to test numerous options and put in place a plan to optimize performance — what will happen.

Perhaps the most important capability, however, is speed. Time is the new money in modern markets, and the ability to quickly evaluate complete planning scenarios will allow companies to be more responsive to increasingly demanding customers. Planning is transforming into "continuous planning." Having the technology to do comprehensive analysis of complex models to drive a performance-optimized response will be critical to value chain resiliency and financial success.

ABOUT THIS ANALYST

As group vice president, Bob Parker is responsible for the research direction for IDC Energy Insights, IDC Manufacturing Insights, and IDC Retail Insights, three of IDC's industry business units that provide global, fact-based research and analysis on best practices and the use of information technology that assists clients in improving their capabilities in key process areas.

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