



TOMORROW'S
CHALLENGES



PROJECT SUPPLY CHAINS – A DIFFERENT WORLD

THE OVERLOOKED SUPPLY CHAIN MODEL

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Companies are increasingly investing in their sales and operation planning (S&OP) process and tools. Gartner, an American technology research and advisory firm, considers demand planning accuracy at the top of the list of key supply chain performance indicators.

Demand planning is becoming more sophisticated. Powerful statistical tools can model consumer demand patterns, while demand shaping and demand sensing are on the rise, and are placing demand planning in a more proactive position with the markets. These developments will yield service and working capital benefits in supply chains which use forecasts to set inventory levels — commonly known as **make-to-stock** supply chains.

This emphasis on demand planning resonates strongly with companies that must respond very quickly to consumer market forces with immediate fulfilment of B2B orders from retailers or B2C orders through omni-channels.

Project supply chains are often forgotten when we discuss today's supply chain trends. Project supply chains are chains that provide products that are for a unique customer, and must be configured or even designed from scratch. Think of a new power station, an airplane or a telecommunications network. These supply chains have a global footprint, several internal and external production points, lead times that are several months long, and most importantly, critical links with engineering and commercial teams.

But they are a big part of global trade. If we look at the 2015 Fortune 500 classification by sector, the companies that could be considered to have a significant part of their revenue derived through project supply chains — such as General Electric and Boeing — account for about 12% of the total revenue of the list. It's worth taking a closer look at the dynamics and challenges of planning in a project environment, and how companies can be successful with this approach.

Project supply chains — a different set of challenges

Customer orders

Project supply chains are strikingly different from make-to-stock supply chains. Rather than dozens of retailers and millions of consumers, in project supply chains there are only a handful of customers in the demand profile. They are the result of months or even years of bids and negotiations. Statistical models don't apply as readily when there isn't a mass from which to draw wisdom, and it is difficult to try and make sense of historical data and draw simple assumptions and conclusions from it. The only way to choose potential projects is to have close collaboration with the commercial teams.

Demand planning and S&OP

As each project is different, the scenario analysis for determining the cost and risk associated with each project needs input all the way up the supply chain, including to vendors. As project supply chains are complex and multi-national, this is a big challenge.

The role of demand planning in the S&OP process is also fundamentally different. The demand plan is not used to set a target stock level that supply must strive to reach. Also, it is not used to identify short-term service issues. This is because the order portfolio acts as both the short-to-medium-term expression of demand as well as the driver of short-term priorities. The factories are not as concerned with the accuracy of demand planning as they are with having visibility in the Customer Relationship Management system to see what order dates are due and from which customers. There is a need to have data that is correct and reliable, in a field where data management is notoriously difficult.

"Because it is engineered to order, the factories may have three months, sometimes six months of backlog. So they have some visibility," said the head of S&OP at a major industrial company. "And because the front end consults the factories for pricing, they can follow what we call hot tenders, so they have some view of what is coming after the backlog."

The S&OP process is more focused on the allocation of scarce resources on a global scale. It looks at common components or available capacity. Instead of most of the energy being invested into getting the forward projection right as well as short-term priorities, effort should be placed on ongoing orders, and long-term potential activity.

Lead time

In project supply chains, another big challenge is determining the lead time commitment in the bid. The lead time is not constant; it is a function of the current load of projects on the factory network, which can be highly variable. This is different than make-to-stock, where typically there is a standard lead time to negotiate a promotional campaign, and there is less need for visibility into production loads and capability.

The fact that the business model of project supply chains involves an understanding that the customer will wait for the product can create a disincentive to improve reactivity. The head of S&OP at a major industrial company explained:

“We absolutely do not see it as a priority for competitive advantage to have more clarity and shorter lead times. I haven’t seen lead time in general high on the agenda of decision-makers.”

This can encourage siloed thinking, the executive continued: “[Factories] typically have no visibility of their products. They measure their own on-time delivery, but whether the products are delivered late to the final customer — they don’t have a clue.”

Obsolescence

From the perspective of the factory, there may be an upside to anticipating production: aligning with the production of similar but unrelated projects. But this can create huge risks for a project supply chain. The size and complexity of the projects, along with the fact that they are often negotiated with public institutions, means that things can change, even after the order has been signed. If production is anticipated, the supply risks generate huge obsolete inventory risks. Given the inflated lead times, the chance of this occurring is higher than in make-to-stock supply chains, which are under constant pressure to be reactive.

The head of S&OP at the industrial company added: “In many instances when there is government-type financing, the customer asks for something a little different and doesn’t get the government funding. Those things can happen, and depending on the robustness of our customer contracts, we may end up with finished goods that were engineered to order that the customer will never take and will we will never invoice.

“It depends on our practice of contract management. If you combine bad contract management with customer changes, then you may end up with obsolescence.”

In a make-to-stock supply chain, obsolete inventory is usually the result of a decision to discontinue a product or a refusal to use alternate channels. In a project supply chain, there is likely no alternative if an order falls through after production has begun. This is yet another reason why communication along the chain to commercial actors is so critical.

Many companies find the internal wrangling over inventory accountability to be draining and distracting. The high stakes of inventory obsolescence for project supply chains only amplifies this tension.

The most important inventory KPI is not the actual inventory value; it is level of obsolete inventory. The telecommunications S&OP manager said: “Inventory is of course a target, but is also maybe not the main concern. Our main concern is actually the excess and obsolescence.”

A different set of needs

In conclusion, the needs of make-to-stock and project supply chains are indeed distinct. Statistical forecasting, demand sensing and demand-driven material requirements planning are exciting innovations for the make-to-stock world, but are not suitable for project supply chains.

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