



Demand and Supply Planning for Oilfield Service Companies

Increasing Service Levels and Profitability in a Challenging Environment

Challenge

The oilfield service industry currently faces a myriad of challenges in supplying not only products, but also integrated solutions to develop and improve the upstream lifecycle of hydrocarbon reservoirs. As exploration and production companies adapt to an ever changing environment of complex plays, regulatory scrutiny, market uncertainty, and geopolitical risk, service companies are under immense pressure to simultaneously increase service levels and improve margins amidst an intensifying competitive landscape.

Meeting these objectives requires overcoming complex challenges including:

- Constraints in the supply, price, and transportation of raw material including:
 - Risks and costs related to single suppliers of key materials
 - Shortage of materials during demand spikes due to logistics issues
 - Difficulty in passing on increased costs to customers
- Ability to shift resources from gas to oil or to liquids-rich basins based on shifting customer strategies and profitability
- Cost pressures and logistical challenges increase as the customer mix shifts to independents with more stable spending patterns
- Excess inventory of pressure pumping equipment due to a plateau in demand for fracturing services

Solution

The goal is to extract the hidden meaning from the vast quantities of data relating to each customer's unique service environment, in terms how it impacts the customer's business and financial success as well as the profitability of the services company. Using SAS Demand and Supply Planning, financial models, predictive modeling, and optimization tools are applied to the data to create insights and guide decisions. Business users can visualize and explore this meaning with reports, queries, analyzes, and scenario analyses as required to deepen understanding and select the right options.

Results and ROI

Ultimately, successful oil field service companies must be able to glean actionable insights from volumes of data in order to make the best decisions to maximize profitability and service levels while managing risk and capital constraints. Actionable insights and optimal decisions include:

- Forecast customer demand by segment, product, service and geography
- Model scenarios in terms of product/service mix, Capex, and resource requirements to anticipate shifts in customer demand
- Forecast supply chain disruptions and subsequent business impact in order to develop risk mitigation and cost reduction strategies
- Optimize inventory (raw materials, subcomponents, end products, spare parts) across the distribution network to meet forecasted customer demand and targeted service levels
- Predict events that can cause outages and optimize maintenance programs for lowest cost and highest up time.
- Price service contracts in the face of changing scenarios and forecast required resources (parts, labor) to optimize risk and profitability.



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