'Available to Promise' as a Supply Chain Differentiator

Abstract

Supply chain transformation or redesign is emerging as a key company strategy to satisfy existing customers and expand business. Semiconductor companies can achieve supply chain differentiation if they can track and meet the customer request date (CRD), since most companies have not been able to deliver on this. A semiconductor OEM's ability to deliver orders on time contributes to a customer's decision to place repeat orders and is therefore a key performance indicator (KPI) for the company. OEMs also need to effectively plan global capacity allocation, due to rising demand for sensors and other trailing-edge devices fueled by the Internet of Things (IoT). To garner every tangible revenue opportunity, it is important to ask how and when customer expectations can be met.

Sometimes, CRDs and CRD order quantities can be unrealistic. For instance, a CRD order quantity may be 1,000 wafers and the fabrication cycle-time may be less than one day per mask layer. For such a request, the sales executive may negotiate multiple CRDs for the volume of wafers requested since the delivery may be completed over a few days or even weeks. An ATP solution makes it easy to estimate this and negotiate with the client.

The True Super User

ATP can be a powerful solution to meet customers' expectations with instant purchase orders (POs) and delivery on the promised dates. But how can this be used effectively? While the design and implementation of ATP solutions is usually handled by supply chain management (SCM) and IT departments, the true super user should be the sales executive. Picture a situation where a sales executive is discussing the forecast and PO with a customer and can instantly provide the delivery date by looking at the ATP solution. This approach reduces the lead time to order commits, prevents revenue leakage, and, most importantly, improves customer satisfaction through a speedy response system.

Impediments to ATP implementation

Instead of running a batch in the ATP engine once a day, OEMs need to provide instant responses. However, most ATP solutions do not facilitate accurate real-time responses. ATP solutions rely on solid supply chain processes, sometimes with customized business rules, accurate data, a robust capacity model downstream, and a fully integrated supply chain ecosystem. Challenges include the need for:

- Accurate inventory buckets which require real-time inventory transaction updates
- Adequate IT infrastructure support
- Reliable plant execution for capacity models and shop floor solutions
- A dynamic procurement system.

Systematic Approaches to Order Confirmation

TCRD is no longer an optional KPI. There are various systematic approaches to order confirmation that may be taken up:

Demand Supply Reprioritization: This allows reprioritization based on the computation of critical ratios for delay in and revenue impact of a particular order commit.

- **Proactive Strategies:** In this approach, systems are developed to monitor and release the reservation quantity held against contractual forecast. This ensures real-time availability and optimal allocation for ATP quantities.

- **Customer Prioritization:** This approach maximizes CRD attainment by customer tier, revenue attainment, and customer contract clauses, with minimal impact to other customers prior to ATP commits.
- **Predictive Systems:** The wide adoption of foundry and back-end monitoring WIP systems has helped companies adopt processes for early detection and real-time alerts to 'order commit' teams. This enables them to recover CRD and CD commits.
- Cost Optimization: A real-time view of the available options allows the organization to realign ATP to CRD in the most cost optimized manner.

No matter which approach, or combination of approaches, is chosen, the ATP solution needs to undergo thorough stress testing to ensure reliability. Inefficiencies encountered during the test should be resolved, and challenges tied to unique customer business rules need to be addressed. In addition, multiple customer order and forecast scenarios should be analyzed and the ATP tweaked accordingly.

Then the sales executive, with the stress-tested ATP solution in hand, can provide instant order commits. The trend of service-driven SCM and sales teams being led by the same manager is becoming a common practice. So is the concept of an empowered customer account management team rather than just a sales-driven customer management team. Such customer account teams typically comprise individuals from sales, SCM, and customer engineering.

Conclusion

Using sophisticated ATP technology to address emerging business changes will provide the proper structure to meet CRD. While achieving 98% or higher on-time delivery (OTD) performance is considered world class, achieving 80–85% or more CRD initial performance is acceptable to most customers, though the bar will be raised in the near future.

About The Author

Selva Rajah

Selva Rajah is the Associate Director in TCS' Supply Chain Center of Excellence. He has more than 20 years of experience working with high-tech and semiconductor multinationals. He also has six years of experience as a solution provider. Selva's expertise lies in the area of end-to-end sales and operations planning, and he specializes in supply planning.

Contact

Visit TCS' Technology unit page for more information

Email: marketing.technologyunit@tcs.com

About Tata Consultancy Services Ltd (TCS)

Tata Consultancy Services is an IT services, consulting and business solutions organization that delivers real results to global business, ensuring a level of certainty no other firm can match. TCS offers a consulting-led, integrated portfolio of IT and IT-enabled, infrastructure, engineering and assurance services. This is delivered through its unique Global Network Delivery Model™, recognized as the benchmark of excellence in software development. A part of the Tata Group, India's largest industrial conglomerate, TCS has a global footprint and is listed on the National Stock Exchange and Bombay Stock Exchange in India.

For more information, visit us at www.tcs.com

TCS Design Services I M I 12 I 16