Supply Chain Collaboration Strategies for the Consumer Electronics Industry

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OVERVIEW

To succeed in today's competitive electronics marketplace, consumer electronics retailers and manufacturers must operate lean and disciplined supply chains. As the pace of promotional events and product introductions continues to increase, companies often find themselves caught between rapidly changing customer demands and relatively fixed production and logistics constraints.

The result? Lost sales or excess inventory, resulting in disappointed customers and missed profit targets.

Collaborative planning can help address consumer electronics supply chain issues. To enhance supply chain responsiveness, retailers and manufacturers need joint visibility into current and future events, along with the means to work together to solve problems and work around delivery constraints as they arise. Oracle Retail Value Chain Collaboration delivers both.

Supply Chain Challenges

Consumer electronics supply chains are under intense pressure to increase sales and reduce costs, while improving customer satisfaction. Common industry challenges include:

- Frequent Promotions—Retailer and manufacturer promotions introduce a high degree of variability into the supply chain and are one of the most frequent sources of supply and demand misalignment. DSN Retailing Today surveys in 2003 and 2004 showed average promotional out-of-stock rates on consumer electronics items in mass merchandise chains that ranged from 8 percent to a staggering 70 percent.

- Uncertain Demand—With the industry-wide average forecast accuracy at 50 percent, the risk of write-offs and markdowns due to excess and obsolete inventory is high. Poor forecast accuracy also leads to low order-fill rates, which negatively impact customer service level metrics and result in lost sales.

- Short Lifecycle Replenishment—Many consumer electronics products have a lifecycle of six months or less, with production cycles of only three months. These short cycles, combined with long transportation lead times and

customs delays, make matching supply to demand difficult. Stock-outs, excess inventory, and write-offs are common.

- New Products—Consumers demand a continuous stream of new electronic products. Product introductions are particularly vulnerable to supply chain problems, as they often depend upon components that have not reached full production yields. With indeterminate demand profiles and the effects of any promotions unknown, the risk of out-of-stock and excess inventory situations is even higher than for established products.

Responding to the Challenges

Consumer electronics retailers can attack these supply chain challenges by establishing collaborative planning processes with their suppliers. Collaboration provides retailers and their suppliers with joint visibility to current and future events; along with the means to work together to overcome problems as they occur.

The VICS Collaborative Planning, Forecasting, and Replenishment (CPFR) industry guidelines provide a framework for collaboration initiatives. In CPFR projects, retailers, and manufacturers combine their intelligence in predicting demand and aligning supply by:

- Developing and sharing promotional plans, retail point-of-sale forecasts, and future order plans

- Identifying and collaborating on exception conditions (situations in which pre-determined supply chain tolerances and thresholds are exceeded)

- Coming to a consensus on plan adjustments to resolve exceptions

- Evaluating key performance metrics

Companies that have successfully deployed a comprehensive CPFR system have typically focused on multi-stage deployment—starting with a few trusted trading partners to learn from the new business process and to accommodate the organizational changes and incremental resources required.

CPFR Lite

Retailers and manufacturers have also had success implementing CPFR Lite. CPFR Lite has two major dimensions: partner and process. Participants ease the transition to collaboration by reducing the complexity of either dimension.

The first CPFR Lite option is to limit process complexity by focusing on a single business process – such as promotions planning, demand forecasting, or replenishment – while rolling out to a number of trading partners. The second alternative is to limit partner and data complexity by pursuing a boarder process scope with a limited number of products or trading partners.

Option 1: Limiting Process Complexity

Retailers can select among three collaboration processes to focus a CPFR Lite program:

- Retail Event Collaboration – sharing the details of upcoming promotions, comparing promotional sales and order requirements, coordinating execution milestones, and tracking performance to maximize marketing budget effectiveness.

- Collaborative Forecasting – sharing point-of-sale and/or order forecasts, and highlighting exceptions due to changes in consumer behavior, product introductions/discontinuations, and distribution issues.

- Collaborative Inventory Management – maximizing suppliers' contribution to the replenishment process, while maintaining retailer visibility and control over service levels.

Retail Event Collaboration

Promotional events have a major impact on sales volume in the consumer electronics channel, at times generating many months' worth of sales for a product in a single week. As a result, they are a major focus of retailer-manufacturer collaboration. Comprehensive market studies have shown that out-of-stock rates on average are more than doubled during promotions–from 8 percent when not promoted to over 17 percent during promotions. This dramatic increase is often attributed to trading partners not leveraging a central system of promotional events tied into their respective planning and execution systems.

Retail event collaboration leverages existing promotional management processes to improve visibility of future events across enterprise boundaries. Successful collaboration gives both parties a clear view of upcoming events, with agreed-upon timing, terms, and volume estimates. Most importantly, it provides alerts to any significant changes to the timing, price, or volume estimates for an event that affects the trading relationship.

Collaborative Forecasting

The conventional signal of customer demand is a purchase order. Since the total cycle time is usually greater than order or release windows, a longer horizon of demand visibility is needed to prevent delivery issues.

With collaborative forecasting, retailers share a forecast of demand (sometimes with upside and downside components) that manufacturers can use to improve their planning. At the initiation of the process, the retailer sends a demand forecast to the manufacturer. If required, the manufacturer responds with its commitment. The cycle continues at regular intervals, typically weekly or monthly.

The best practice in collaborative forecasting is for both the retailer and the manufacturer to generate and share point-of-sale forecasts for exception generation and resolution. Wal-Mart has reported a reduction in out-of-stocks by 7.85 percent,

and a reduction in weeks of supply by 5 percent for suppliers who provide POS forecasts. Of course, to be effective, participating suppliers must have access to retail forecasting technology.

Collaborative Inventory Management

Manufacturers are often in the best position to shorten lead times and manage inventories more tightly, because they have the most control over availability and inbound logistics processes. Many trading relationships have adopted vendor-managed replenishment (VMI) policies to delegate inventory management from retailers to manufacturers. In a typical VMI scenario, the retailer publishes its distribution center withdrawal data, along with other supply chain data, such as current inventory positions. The manufacturer then calculates required shipments based upon its order cycle time, transportation lead-time, statistical safety stock, and any in-transit order quantities. The manufacturer usually has some latitude to forward ship or otherwise change the replenishment policy, as long as the retailer's service level target is met.

One problem with most VMI programs is that they only consider historical demand. Manufacturers do not have a systematic way to incorporate future changes in demand in their own replenishment planning processes. As a result, customer service organizations often scramble to incorporate promotions and other customer demand changes into planning activities, using spreadsheets, manual overrides, and other labor-intensive means. Meanwhile, retailers have no visibility to VMI suppliers' plans, and no control over their allocation decisions.

An essential principle of collaborative inventory management is the continuous monitoring of the supply chain for exception conditions. Rapid alerts and associated resolution policies can result in sustained bilateral inventory reduction and increased sales.

Option 2: Limiting Partner/Data Complexity

Supply chain issues can sometimes span promotion planning, demand forecasting and replenishment. Some companies choose to explore the full range of collaboration processes, but limit collaboration to a single supplier or product category. Consumer electronics products with the following supply chain characteristics are the top candidates for supply chain collaboration systems:

- High variability in demand due to seasonal or promotional events patterns

- Products moving through the supply chain with high velocity

- High volumes of unique products moving through the supply chain

Project complexity can be further reduced by delegating most of the collaboration tasks to one side of the trading relationship (typically the supplier), based on data input from both sides.

The objective of initial project efforts is to create a template for introducing subsequent trading partners with reduced effort.

The Common Thread: Exception Identification and Resolution

Consumer electronics retailers and manufacturers operate complex supply chains. Given the high number of variables, competitive pressures and resource constraints, the complexities of consumer electronics supply chains demand management by exception. Management by exception applies equally no matter what collaboration effort is being pursued. For example, most of the time, replenishment calculations should be automated. However, when service agreements are violated, exception alerts should notify the appropriate party so it can intervene to correct the issues.

Exception resolution may involve adjustments to capacity, allocation policies or logistics forecasts, or may require expediting, alternative sourcing or other strategies. The roles and responsibilities for each common exception scenario should be identified in the collaboration arrangement.

With clear customer and supplier agreements, and a system to monitor exceptions, great advances can be accomplished in collaboration scalability – allowing for limited staff to effectively manage all products across many trading partners.

Oracle Retail in Consumer Electronics Collaboration

Oracle Retail Value Chain Collaboration provides the technology to implement all of these collaboration activities. Several key functional areas work together to support these critical activities, maximizing the results of collaboration. A single installation of Oracle Retail Value Chain Collaboration can serve an entire network of trading partners.

Promotion planning is a key functional area that supports retail event collaboration by sharing the details of upcoming promotions, comparing sales estimates and tracking performance through delivery and execution. With this promotional planning function, fewer disconnects occur, resulting in fewer out-of-stocks during the events and less residual inventory at their completion. Retailers can achieve higher sales and improve marketing budget effectiveness, while simultaneously lowering logistics and inventory costs.

Oracle Retail Value Chain Collaboration combines supply chain data visibility with the flexible exception identification and collaboration features needed for collaborative forecasting. The solution automatically maps sales history, forecasts, inventory, orders and other supply and demand information into each organization's product and location hierarchies. Each company can work using its own product identifiers, calendars, and units of measure.

Users create exception rules through a point-and-click interface to highlight business issues such as out-of-stock conditions, excessive forecast error or deviations in retailer/supplier plans. Oracle Retail Value Chain Collaboration

delivers exception summaries through e-mail or a prioritized on-line inbox. The solution guides users through analysis and resolution of each exception, or resolves them automatically if desired. Flexible disaggregation (allocation) features support changes to plans at any level, which are reflected in trading partners' views and exported to enterprise systems. Finally, companies measure their progress through built-in metrics calculation and reporting features.

Oracle Retail Value Chain Collaboration utilizes a highly flexible, continuous replenishment engine to turn demand forecasts into order and shipment plans. The solution takes current inventory, safety stock, transit times, shipping and receiving calendars, open orders, and other supply chain data and parameters that trading partners take into account as they project shipments, receipts, and future inventory positions.

Oracle Retail Value Chain Collaboration supports collaborative inventory management by giving visibility and planning responsibility to the buyer, the seller or both, depending upon the product and trading relationship.

Oracle Retail Value Chain Collaboration can extend and complement other Oracle Retail solutions, such as Oracle Retail Advanced Inventory Planning, in order to project orders beyond the next delivery cycle. These features can lead to dramatically lower inventory requirements to meet the given customer service level, as compared with reorder-point-driven replenishment systems, that are central to most VMI solutions.

By leveraging the power of Oracle Retail Value Chain Collaboration solutions, retailers and manufacturers can increase sales, reduce inventory and maximize their trading relationships for increased efficiency and mutual success.

DEPLOYMENT

The most active group of collaborating retailers is on the WorldWide Retail Exchange (WWRE). A WWRE retail member can collaborate with its strategic suppliers through the WWRE Collaborative Planner (CP) service, powered by Oracle Retail technology, and with suppliers using private collaboration hubs for collaboration.

Non-WWRE member retailers can establish collaboration with its strategic suppliers through a private collaboration hub that provides a consistent aggregated view across suppliers, allowing for exception reporting on product categories regardless of supplier.

These same methods of collaborating for retailers also apply to manufacturers. A manufacturer can collaborate with WWRE members such as Best Buy, RadioShack, Target, and K-Mart through the WWRE CP services powered by Oracle Retail solutions.

For non-WWRE member retailers such as Wal*Mart, Circuit City, Sears, and CompUSA, collaboration can be accomplished through a private collaboration hub

that is either operated in-house by a consumer electronics manufacturer, or hosted by Oracle. A manufacturer can synchronize collaboration with WWRE member retailers through the WWRE, and other retailers through a private collaboration hub. In the event that a consumer electronics manufacturer is collaborating with both WWRE member retailers and other retailers, data on the WWRE collaboration hub and the private collaboration hub can be fully synchronized so that end-users benefit from a single, logical, and aggregated interface to all retailer trading relationships.

Implementation Methodology

The team responsible for implementing Oracle Retail Value Chain Collaboration has developed and fine-tuned a path to successful collaboration system implementations. Our proven methodology is comprised of four major phases:

- Define Collaboration Strategy
- Develop Collaboration Program
- Launch Collaboration Program
- Rollout Collaboration Program

The objectives of the first phase are to define the collaboration strategy by company, and to align the value of collaboration with the corporate goals and objectives of the retailers and consumer electronics manufacturers.

During the second phase, the trading partners prepare for collaboration, and develop a detailed deployment plan.

With the deployment plan in hand, the trading partners are ready to implement the collaborative solution and measure the results.

During the launch phase, file transmissions are typically unidirectional from demand planning, merchandising, enterprise resource planning (ERP) and Warehouse Management (WMS) systems to the collaborative application platform. This reduces project complexity and allows the project team to focus on correcting the immediate business misalignments. Files are received from both the buyer and the seller to enable inter-enterprise comparison of past and future business expectations. Typical file formats used for collaboration includes flat files, EDI, and XML.

Finally, the trading partners move the collaboration initiative into a fully integrated, enterprise-wide solution supporting a broader set of products, business processes, distribution centers, and retail outlets. At this stage, bidirectional data integration between the existing operational systems and the collaborative platform is recommended to enable the broad rollout implementation.

Proven Results

While specific results vary, Oracle Retail Value Chain Collaboration customers have experienced results in the following areas:

- Sustained inventory reduction by as much as 10 percent to 60 percent for both the buyer and seller

- Improved forecast accuracy by as much as 10 percent to 30 percent

- Enhanced store shelf stock rates by as much as 2 percent to 8 percent

- Increased sales by as much as 5 percent to 20 percent

- Reduction of logistics costs by as much as 3 percent to 4 percent

In addition to these tangible results, Oracle clients have also reported improved conditions in the following intangible categories:

- Reduction of the last-minute, costly expedition of product shipments

- Reduction of lost sales opportunities

- Improved business relationships between buyer and sellers due to joint supply chain visibility and shared planning

- Scalable business processes that allow for the same staff to more efficiently manage more business relationships.

SUMMARY

To be successful, consumer electronics retailers and manufacturers must maximize the efficiency of their demand and replenishment processes, while minimizing the liability exposure of changes to supply and demand. Supply chain collaboration management is a process that supports retailers' and manufacturers' business goals by managing large volumes of strategic supply chain time series data by exceptions. This can help consumer electronics retailers and manufacturers in the following areas:

- Enhancement of relationships between retailers and manufacturers through collaboration.

- Improved supply chain responsiveness through the timely correction of misalignments of demand and supply signals

- Enhanced coordination of promotional events through synchronized events planning and execution between retailers and suppliers

- Better demand planning leading to higher forecast accuracy results, which in turn lead to higher service levels and increased sales

- Improved replenishment planning as inventory positions, sales, lead times, and other supply chain planning data is taken into consideration

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