Boosting Fill-Rate Performance Through Collaboration

A case study in improving collaboration between a retailer and its CPG suppliers
Success in today’s hotly competitive business environment requires consumer-packaged-goods (CPG) companies to perform increasingly complex tasks—from coordinating global supply chains, and organizing myriad new-product introductions to scuttling obsolete products and managing electronic catalogs. Such tasks have made it challenging to maintain fill-rate levels above 90 percent—and particularly to rely on old fill-rate strategies. Keeping shelves stocked with products requires total collaboration between retailer and CPG, not only along the supply chain but also in commercial areas.

Recently, A.T. Kearney was asked to perform a collaborative project in Mexico with a leading retailer and three of its largest suppliers, global consumer-packaged goods companies. All four companies had significant presence and sales, and although all possessed leading-edge logistics systems and processes, fill rates—the percentage of the retailer’s orders satisfied from stock at hand—had not reached expected goals, a scenario that could potentially translate into lost sales. It was clear that current practices would not be sufficient, and more collaboration was required across the supply chain. And, as the problems were spreading across other suppliers and retailers in the Mexican market, other companies in the sector would be able to share in fill-rate best practices.

The following is a detailed look at the issues affecting fill-rate performance and how increased collaboration helped these companies arrive at several solutions.

Case Study: A Retailer and its CPG Suppliers

When the project began, annual deliveries from the three suppliers amounted to a total of 55 million of the 59 million cases the retailer had ordered—an overall fill rate of 92 to 95 percent. Not surprisingly, the majority of fill-rate problems occurred in areas where there was very little collaboration between the retailer and its suppliers. Indeed, most undelivered cases (44 percent) were in the category of commercial interactions with the retailer. This was followed closely by demand planning, with 37 percent of undelivered cases. Altogether, more than 80 percent of the undelivered cases could be traced to these two supply-chain areas where collaboration is crucial but was lacking (see figure 1 on page 2).

In tracking accountability, we found that the suppliers and retailers shared responsibility for about 75 percent of the undelivered cases. Only 15 percent could be traced just to the suppliers,
only 5 percent to the retailer. The message was clear: lack of collaboration was taking its toll on fill rates.

The initial cure was to bring together the retailer’s departmental leaders—purchasing, logistics, replenishment and distribution—with officials from the suppliers’ logistics, sales, product-catalog management, customer-service and demand-planning areas (see sidebar: Finding a Natural Flow of Ideas on page 8). Bringing all relevant partners together to sit at the same table sped up the process; it shortened the timeframe in which team members participated in the identification and the quantification of 17 fill-rate improvement areas at different stages within the supply chain (see figure 2).

Each improvement area was assigned to one of three categories—supplier-retailer interactions, supplier-driven, or retailer-driven (see figure 3).

Figure 1
Most fill-rate issues occurred in suppliers’ commercial interactions with retailer

![Chart showing fill-rate issues by category]

Note: Based on 4.3 million undelivered cases
Sources: Retailer database download, October 2009, databases of three suppliers; A.T. Kearney analysis

Figure 2
17 fill-rate improvement areas were identified across the supply chain

<table>
<thead>
<tr>
<th>Suppliers</th>
<th>Manufacturing</th>
<th>Distribution</th>
<th>Sales</th>
<th>Customer service</th>
<th>Purchasing</th>
<th>Replenishment</th>
</tr>
</thead>
<tbody>
<tr>
<td>15. Strengthen demand planning (such as forecast, detail level and collaboration)</td>
<td>16. Improve demand forecasts for new products</td>
<td>17. Bolster suppliers’ response to unexpected increases in demand</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: A.T. Kearney analysis
Supplier-retailer interactions. Improving interactions between the retailer and its suppliers could improve fill rates by 3.2 million cases, of the 4 million undelivered cases (see figure 4). The single largest opportunity was related to commercial and logistic processes. However, in aggregate, the commercial issues were almost two-thirds of these opportunities, with demand planning representing 30 percent of all opportunities. The improvements included: accelerating slow and ponderous price-change negotiations, improving response time to unexpected demand surges, streamlining

Figure 3
Fill-rate opportunity areas fall into three main categories

Figure 4
Improvements in retailer-supplier interaction areas could result in 3.2 million cases delivered

Distribution of interaction-related opportunities (millions of cases)
order-management processes, discontinuing obsolete products, and changing sales force incentives and promotion terms. Together these areas represented 45 percent of cases not delivered and were mainly the responsibility of both the suppliers’ and the retailer’s commercial areas (suppliers’ sales teams and the retailer’s purchasing organization). Although fill rate is mainly a logistics metric, commercial areas contribute significantly to achieving high fill rates, which is why a collaborative process among all areas is key.

**Supplier-driven.** The eight supplier-related opportunities represented nearly 600,000 undelivered cases (see figure 5). Supplier issues were very fragmented, involving a range of areas, among them manufacturing, transportation, distribution, purchasing, and demand planning. Except for demand planning, it was clear that suppliers should pay less attention to these diverse areas and focus instead on areas related to retailer interactions, especially those with commercial involvement. Demand planning, however, deserved attention as suppliers control various factors that can significantly improve demand accuracy and, ultimately, fill rates—including the degree of aggregation to which plans are developed, the sophistication of forecasting tools used, planning timeframes, and adjustments to plans when new demand data emerges.

The importance of collaborating with the retailer is most evident when sharing store-level demand information, as it becomes crucial input for accurate forecasting. While retailers often see themselves merely as the channel through which products get to consumers, the truth is that most maintain valuable information on consumer-demand patterns. Indeed, retailers affect demand through promotions, advertising and marketing.

**Figure 5**

Improvements in supplier-driven areas could represent 600,000 previously undelivered cases

<table>
<thead>
<tr>
<th>Source</th>
<th>Millions of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boost manufacturing capacity for high-demand products</td>
<td>0.13</td>
</tr>
<tr>
<td>Reduce the number of rejected products (damaged or exchanged)</td>
<td>0.10</td>
</tr>
<tr>
<td>Eliminate delays in finished product imports</td>
<td>0.10</td>
</tr>
<tr>
<td>Lessen loss of perishable products</td>
<td>0.10</td>
</tr>
<tr>
<td>Improve demand forecasting for new products</td>
<td>0.04</td>
</tr>
<tr>
<td>Raise fill rates at remote distribution centers</td>
<td>0.04</td>
</tr>
<tr>
<td>Improve material procurement</td>
<td>0.02</td>
</tr>
<tr>
<td>Increase transportation reliability</td>
<td>0.02</td>
</tr>
<tr>
<td>Total</td>
<td>0.60</td>
</tr>
</tbody>
</table>

Sources: Retailer database download, October 2009; databases of three suppliers; A.T. Kearney analysis
Information about demand changes can only be put to optimal use if it is shared early with CPG companies.

Retailer-driven. Retailer-related opportunities account for 200,000 undelivered cases (see figure 6). Only one significant issue was identified in this category: product-catalog management. With a cadre of new-product introductions, promotions, renewals, product terminations and others, keeping the product catalog up-to-date is a daunting task for most retailers. Problems in catalog management can easily lead to ordering obsolete products or receiving the wrong products from suppliers. The impact is even greater if processes are not automated or do not utilize the latest industry standardized platforms. Such inefficiencies can cause supply-chain problems that result in out-of-stocks and lost sales.

Focus on Three Areas
Of the issues identified, three were selected for further investigation: poor collaboration in the demand-planning process, suppliers’ poor response to unexpected demand surges, and delays in commercial agreements to discharge products. These issues had a significant impact: They were relevant to all three participant suppliers and to many other suppliers in the CPG sector. The following offers brief descriptions of the challenges in all three areas and the solutions developed.

1. Poor collaborative demand planning.
There are two components to an efficient and collaborative demand-planning process: open and timely communication and built-in planning flexibility. We often see different levels of communication between a retailer and individual suppliers. Both parties sometimes differ in function and position, or messages and frequency of communication are not the same. Templates and timelines for sharing sales and expected demand information either do not exist or are not used in a consistent manner across the various
Unexpected surges in demand are an everyday occurrence in retail. A promotion—whether it is a price reduction or a product bundle—draws in customers and their wallets.

companies. In this fast-paced industry, timely communication of product promotions and introductions is important so that all involved are well prepared to deliver the promised value and fulfill customer expectations.

Another problem with collaborative demand planning is lack of flexibility. While suppliers can freeze demand plans up to six weeks in advance of the expected sale date, retailers can still be adjusting replenishment parameters after that date. These parameters will have an impact on the size and frequency of orders, and ultimately can result in orders to the suppliers that are different from what’s expected. Granted, these adjustments might follow inherent industry price competitiveness, but problems will occur if they are not communicated in a timely fashion so that contingency plans can be developed.

Two programs were designed to resolve these issues. In program one, the collaborative process was strengthened by capitalizing on a retailer’s and suppliers’ existing accomplishments in processes, systems and organization. This involved specifying clear roles and responsibilities between suppliers and the retailer during the demand-planning process (who talks to whom, timing, and controls) and establishing data flows and deliverables (level of detail, inputs and outputs and templates, for example) to promote efficient use of information. Figure 7 highlights some of the opportunities.

In program two, the team increased flexibility in the demand-planning process by setting specific shared planning horizons for each category and department, and by negotiating a mutually agreeable standard process to incorporate changes to the execution plan (defining times, responsibilities and critical paths).

2. Suppliers’ poor response to unexpected demand surges. Unexpected surges in demand are an everyday occurrence in retail. A promotion—whether it is a price reduction or a product bundle—draws in customers and their wallets. In consumer goods, promotions can be initiated not only by retailers but also by CPGs and competing retailers. This makes demand patterns even less predictable, as the only certainty is that retailers will react to a non-internal promotion either by matching or even outdoing it. We found that when these “surprise” promotions occur, orders spike and fill rates plummet (see figure 8).

Not surprisingly, retailers typically keep promotions fairly confidential so not to lose market advantage. They can be too secretive, however, to the point that even key suppliers are kept in the dark about promotion details such as discounts, duration and channels. Retailers also often extend successful promotions without informing their suppliers.

The team designed two programs to address these issues. The first was a contingency plan for unexpected demand peaks. The plan outlined an
Figure 7
Opportunities for improving demand planning

Illustrative

Planning

| Demand forecasts | Forecasting at product and client levels |
| Event and initiative planning | Improving communication between buyers and sales representatives |
| Sharing promotional information at category and product level | Sharing plans (demand-purchase) |
| | Detailed joint-business-plan development |
| Retailer | Sharing plans (demand-purchase) |
| Purchasing forecast (historical) | Using consistent structures to share internal plans |
| | Soliciting inputs from customer service (supplier) and replenishment (retailer) |
| Supplier | | | |
| | Creating more consistent communication between sales and operations |
| | Sending clearer information to service areas |
| | Sales and supply chain consensus |
| Interaction | | | |

Source: A.T. Kearney analysis

Figure 8
Surprise promotional periods cause fill rates to plummet

Client example

Note: Average order is based on 52 weeks

Source: A.T. Kearney analysis
agreed-upon portfolio of high-priority products, pre-defined service levels, and response times to different degrees of variation in demand. It included a communication procedure that offered timely notification of promotions and incorporated changes to the demand plan.

The second program was an anticipation strategy that helped suppliers foresee potential competitive reactions and included a built-in buffer—so when suppliers participate in joint promotions with a retailer’s competitors, they can predict market reactions. The strategy also included a price-war “warning light” that signals when competitors’ inventory levels exceed certain pre-defined standards thus signaling the probability of a promotion.

3. Delays in commercial agreements to discharge products. Commercial agreements between retailers and suppliers are part of day-to-day business practices, as are delays in revealing

Finding a Natural Flow of Ideas

It is neither common nor easy for representatives of a large retailer and its three leading CPGs to sit down and discuss problems, let alone agree on potentially painful solutions. But since collaboration was the main goal of this work, A.T. Kearney’s methodology relied on intensive interaction between retailer and suppliers.

The kick-off session brought together the retailer’s departmental leaders—purchasing, logistics, replenishment and distribution—with officials from the suppliers’ logistics, sales, product-catalog management, customer-service and demand-planning areas. Although discussions were quiet in the beginning and started slowly, as the meeting progressed, discussions began flowing more naturally—everyone began talking about their problems and issues with total transparency. The eventual outcome of this unprecedented session was a long list of issues that caused fill-rate problems. We grouped these issues into three categories: retailer-driven, supplier-driven, and retailer-supplier driven. It was interesting to note that no matter what category issues were assigned to, they were fairly common among the suppliers. It was clear that collaboration had been missing from standard operating procedures.

The issues were quantified in terms of their impact and incidence. The main sources of data were the retailer’s and suppliers’ order databases. All the information—product category, dates ordered, delivery and receipt dates, cancellation, origin, destination and, most important, quantities ordered and received—was the basis for analysis of cases not delivered on time and in full. A.T. Kearney conducted an exercise whereby a representative set of incomplete orders was tracked through the fulfillment process, from issuance by retailer to delivery by supplier. This helped pinpoint the area or process that prevented cases from being delivered on time. Once problems were quantified, they were prioritized based on potential benefits to both parties and on other strategic considerations, such as the ease with which solutions could be implemented across the entire supply base. Collaboration between retailer and suppliers was, of course, key in designing solutions to top-priority issues. The process involved different design and validation meetings that took place with the retailer, with the suppliers, and with both parties at the same time.

After detailing all parties’ roles and responsibilities, we prepared estimates for the number of cases that could be delivered on time and in full with the initiatives in place (fill-rate benefits) and for the potential sale value of those cases (sales upside). These elements became essential parts of the implementation business case going forward.
product discharges, which are a common cause of fill-rate problems. Once a supplier announces a product discharge, retailers demand discounts so the products can be cleared off store shelves and replaced by newer, higher-demand products. These discounts are an expense to suppliers, as they must forfeit profit margins, so they delay discharge notices to retailers as long as they can. This practice, although legitimate from a margin-protection point of view, causes fill-rate issues for unaware retailers that continue to place orders—which will not be filled as suppliers’ inventories become depleted (see figure 9).

This problem can be resolved through a collaborative working arrangement between the commercial parties involved in the discharge process, and it can be done in a way that protects suppliers’ margins and retailer’s sales potential. A three-pronged approach was developed:

- **Set replenishment parameters** to manage in-store inventory depletion based on product categories, inventory size and product turnover, among other factors.
- **Formalize the discharge process** by defining, standardizing and agreeing on timing guidelines, roles, responsibilities, and key performance indicators.
- **Inform retailers** about product discontinuations in a timely manner to avoid stockouts.

This approach helps to balance the need for profit protection with the need to maintain fill rates, ensuring a smoother flow of goods through the supply chain.

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**Figure 9**

Delays in revealing product discharges are a common cause of fill-rate problems

*Illustrative*
indicators (KPIs). A replenishment system was devised to “lower the flag” at the right time and bring inventory levels to manageable liquidation costs and create a one-time centralized ordering system to guarantee on-shelf availability.

Establish advance negotiations of liquidation terms by category by using a pre-determined framework to expedite negotiations of the most obsolete products during a certain period, and help determine discounts on obsolete inventory relative to size and other retailers’ inventories.

Quantifying Collaboration
Achieving fill rates of more than 90 percent is a significant accomplishment, even for leading retailers. Yet even higher rates are achievable through centralized collaboration—not only in supply chain areas but also in commercial areas as described in this case. Once this became evident to all stakeholders, the retailer and suppliers got together, discussed their common issues and problems, assumed their share of responsibility, and committed to working together to improve things—and they did just that. In the end, this retailer and its supplier partners could see their fill rates rise to 97 percent, which translates to a 20 to 30 percent increase in cases delivered.

Still, fill rate is a logistics measure, while the true measure of a successful collaborative effort is the potential to increase sales—or, perhaps more important, to increase customer satisfaction by making available products that your customers most want to buy. After all, customers and customer satisfaction are what retail is all about.

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