Enabling the Shelf-Connected Enterprise

An integrated model for managing at the shelf can help consumer packaged goods manufacturers and retailers maximize revenue, margins and in-stocks while removing costs across the value chain.

Industry's quest for growth and profitability has always been shaped by consumers, trading partners and technology. A number of current trends related to these three elements threaten to distort the delicate balance of the retailer/manufacturer relationship and are leading consumer packaged goods (CPG) manufacturers to transform their operating models. The objective: to better manage retail shelf space while also squeezing out incremental revenue and margin. These key trends are varied but include the shifting wealth in developing countries, simplification of store formats, customizing local assortments and value chain information transparency, among others (see Figure 1 for a more detailed view).

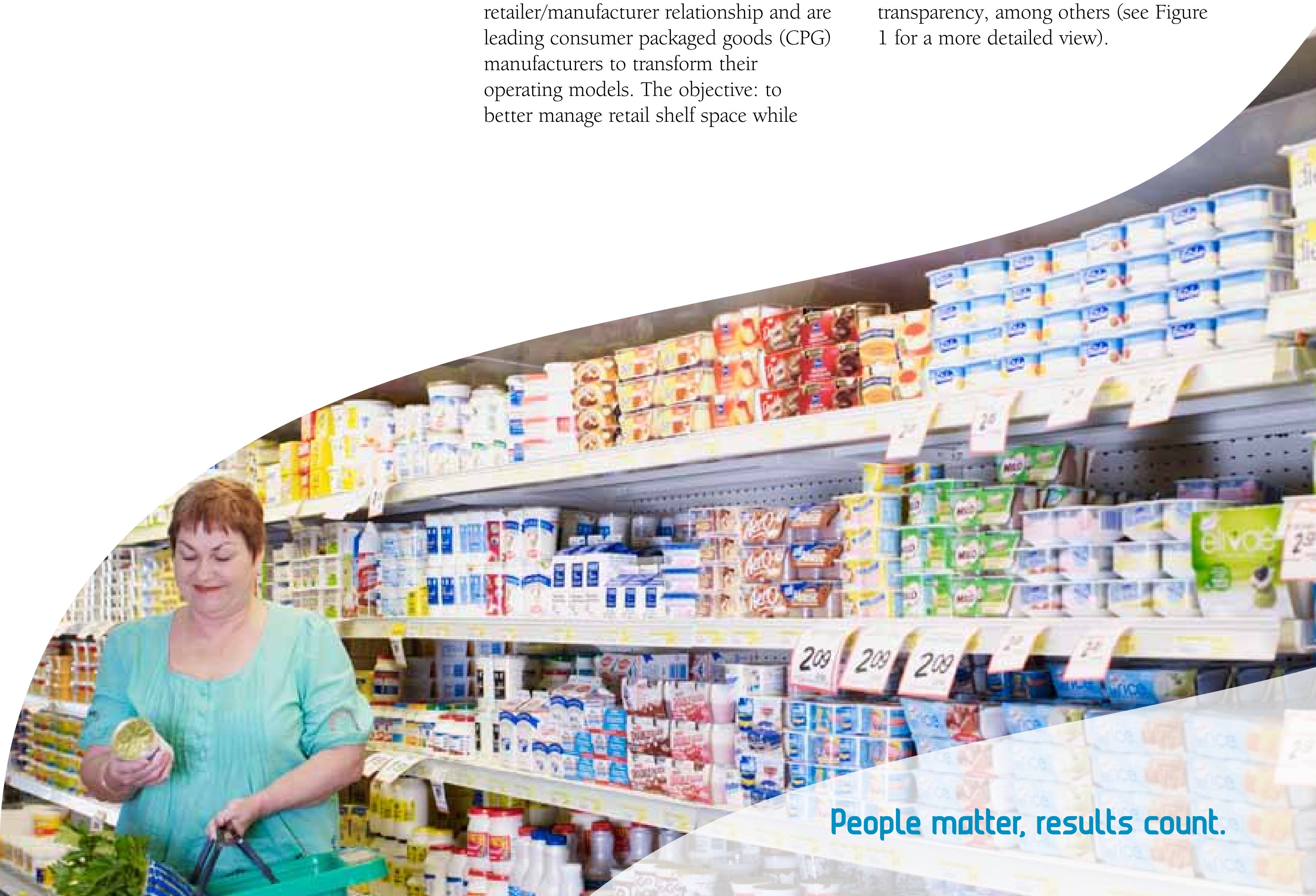


Figure 1: Key Consumer Products and Retail Trends

External drivers...

CONSUMER
- Shifting wealth in developing countries, brand switching
- Near real-time consumer advocacy, blogging
- Mobile technology adoption
- Increased demands for service availability and consumer support access
- Growing "sustainability" concerns

RETAILER
- Simplifying store formats and customizing local assortments
- Promoting private label
- Rolling out price optimization campaigns
- Developing manufacturers' profitability insights

TECHNOLOGY
- Value-chain information transparency
- Scalability to process transactional volumes
- Predictive modeling and business analytics maturity

.... are forcing CPG manufacturers to transform themselves

From	To
Mature markets/traditional retail...	**Emerging markets/non-traditional retail**
Mass marketing, TV and print ads...	**Social and digital media**
Brick-n-mortar, catalog, online...	**Multi-channel, direct-to-consumer, smart phones**
"Servicing to keep"...	**"Servicing for loyalty"**
Coping with environmental policies...	**Marketing sustainability commitments**
Visibility to retail DC...	**Visibility to shelf**
Broad merchandise assortment...	**Item rationalization/price competition**
Top-line growth focus...	**Category margin focus**
Fixed marketing budget...	**Marketing spend optimization**
"Push" supply chain...	**Demand-driven supply network**
Owned IT...	**Managed services**
Spreadsheets...	**Business analytics**

The Case for Change

What do these trends and transformation options tell us? The message is that maintaining the status quo will force margin compression, and CPG manufacturers that don't innovate will be faced with poor performance, demise or acquisition. Additional factors such as pricing pressures, higher input costs and fluctuating commodity prices are also contributing to the constant squeeze on CPG manufacturers' performance. Furthermore, the continuing impact of the global economic crisis has resulted in a significant decrease in consumer spending.

To combat these pressures and respond to requests from consumers and retailers, CPG companies have increased product variations and extensions in an attempt to boost sales and steal market share from competitors. Additionally, to counteract lower consumer spending, retailers and manufacturers have focused on reducing overall operational costs and, to a somewhat lesser extent, optimizing supply chains via process and technology enhancements. Similarly, shifting channels of retail distribution, including the emergence of the dollar channel and consolidation among retail segments, has resulted in a relationship change between manufacturers and retailers. New relationships need to be formed, with new goals requiring new ways of doing business and new products.

At the same time, many retailers are continuing their efforts to reduce inventory and costs by enacting cross-chain SKU rationalization projects to identify items that have a strong turnover vs. those that don't. A recent study by The Nielsen Co. shows that 40% of retailers planned to reduce their product assortment by up to 10% in the last year.[1] However, recent reports from The Wall Street Journal suggest that for some retailers, assortments may have been cut too deeply, resulting in a loss of sales.[2] This is attributed to consumers' inability to find the product they want and perhaps to a lack of understanding by retailers of market-basket affinities (products that are purchased together) for items that were removed from their assortments.

Facing these challenges, CPG manufacturers must find new ways to compete, collaborate and adjust their business models to manage their share of the retailer's shelf space. An opportunity exists for manufacturers to help their retail customers leverage consumer insights to determine the right product assortment for each store, how to price, how to promote, how much to ship and where products should be located within

[1]Nielsen News Release, June 15, 2010, "More than Half of U.S. Consumers Likely to Shop Elsewhere if They Notice Reduced Product Selection, yet Retailers Indicate Continued Plans to Trim Assortment"
[2]The Wall Street Journal, April 11, 2011, "Wal-Mart Merchandise Goes Back to Basics" and RetailWire, April 12, 2011, "Walmart Reverses Course on SKU Rationalization"

the available space. This paper focuses on a new comprehensive model that can help manufacturers and retailers address this opportunity. We call it the "Shelf-Connected Enterprise."

Introducing the "Shelf-Connected Enterprise"

The Shelf-Connected Enterprise is intended to integrate the planning and execution processes across both CPG manufacturers and retailers to drive revenue and margin increases by better supporting assortment optimization, space optimization, trade funds management and demand planning while simultaneously streamlining the supply chain. The power of the Shelf-Connected Enterprise lies in five core concepts:

- Collaborative Category Management
- Demand Planning Synchronization
- Trade Promotion Management and Optimization
- Inventory Planning Synchronization
- Supply Chain Execution Collaboration

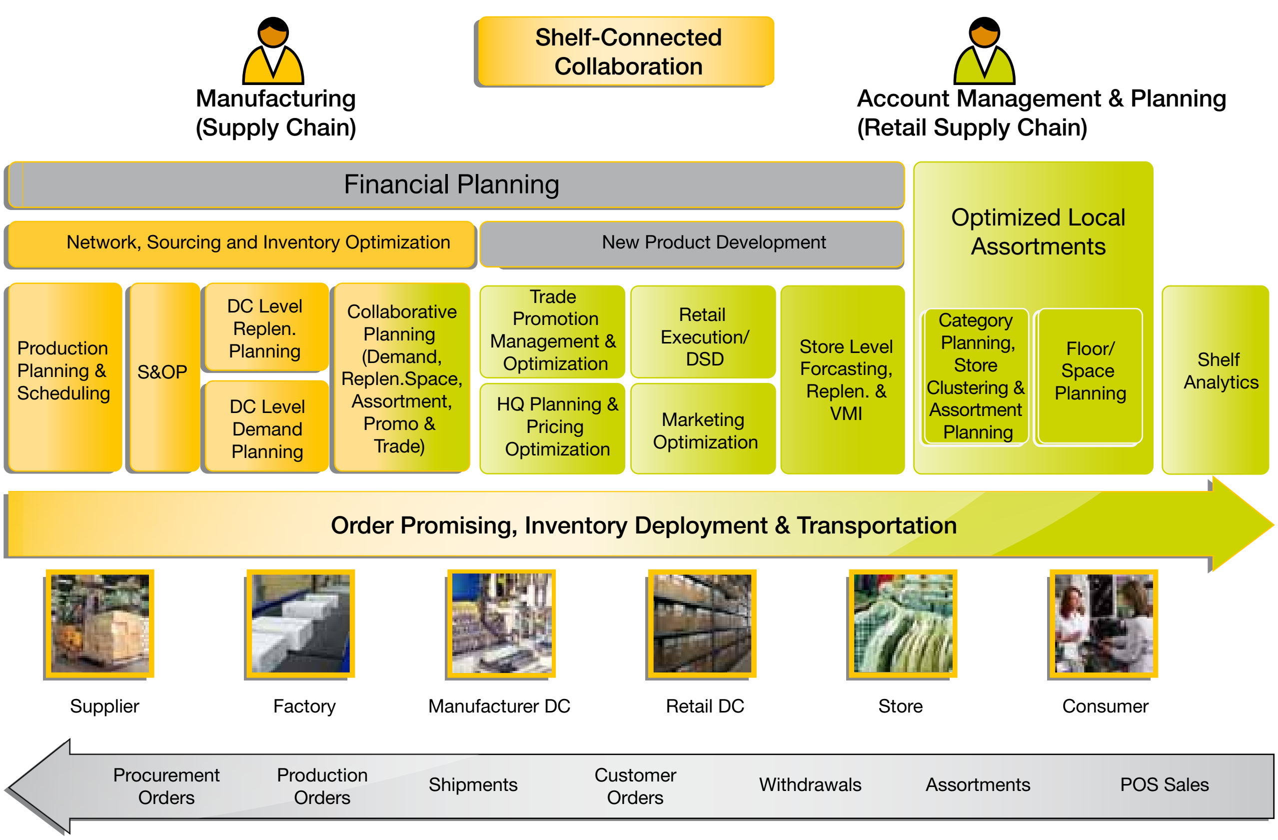
These concepts work together as enablers to maximize revenue, margins and in-stocks at the shelf while simultaneously removing costs across the entire supply chain (see Figure 2).

Shelf-Connected Enterprise Components

Collaborative Category Management: CPG companies spend millions of dollars every year on research into consumer trends, shopper behavior, product affinities and new product introductions. The wealth of knowledge that manufacturers gather from their marketing and product lifecycle management activities can be incorporated into the shelf-space strategy. CPG companies have dedicated account teams that work with specific retailers. The Shelf-Connected Enterprise model dictates that the CPG account management teams leverage their learnings from market analysis, brand campaigns and retailers' shelf-level demand data to embed category strategies into improved assortment and store-level plan-o-gram recommendations.

Retailers typically do not have the bandwidth or the detailed customer insight information to collaborate in performing in-depth category analysis more than once annually. However, the information is available to optimize and localize assortments and to determine the best space allocation model on a store-by-store basis. Store clustering processes and technologies can be used to identify the strength of consumer preferences for categories/ brands, and in defining local market trends, understanding demographic impacts such as differences between urban/suburban markets, and

Figure 2: Shelf-Connected Enterprise Framework – Top View



even help segment stores that have different weather pattern characteristics.

Clusters can be used to tailor assortments or assign assortment templates to designated clusters. SKUs can be defined as strategic or base and assorted to all clusters, while other SKUs can be assorted to specific clusters (supporting localization). The assortment plan by cluster is contrasted with the overall category plan to ensure that target revenue and margin objectives are met and aligned with space planning. This helps to verify that plan-o-grams can be executed in the retailer's environment, including consideration of unique display sizes and other attributes by store.

CPG companies would require macro floor planning data from the retailer, with which they can determine assortments by store or cluster with constraints such as shelf-fixture space and minimum presentation quantities. Rules can be configured to automate plan-o-gram generation by individual store if necessary.

CPG account management teams will collaborate with the retailer to come to a consensus on final store-level assortments, plan-o-grams and a joint execution plan. The retailer's insights on future promotions, such as planned price discounts or advertised specials, which could cause the consumer purchasing behavior to change, are incorporated into the forecast that is used to generate assortment plans and plan-o-grams. Both parties can further adjust the assortment and plan-o-gram parameters and regenerate plans systemically. The assortments and plan-o-grams will also take into account seasonality, details on new product introductions and adjustments based on emerging consumer trends. Hence, retailers will need to provide a feedback mechanism to the CPG manufacturer on regional changes in their operations or fixture and layout challenges.

This approach of optimizing assortments and shelf space by incorporating key insights and collaborating on the final strategy is the cornerstone for ensuring that the interests of both parties are taken into account while delivering the optimal product mix to the consumer. The key is to leverage the insights of both partners effectively in order to best serve the consumer at the lowest possible cost. The Shelf-Connected Enterprise proposes a greater level of CPG manufacturer involvement in managing the initial planning of assortments and shelf space and further collaboration to reduce risk with retailer workload around detailed product analysis in planning the shelf.

Demand Planning Synchronization: Now that the localized assortments, space plans and minimum presentation quantities have been determined, agile supply chain capabilities are needed to cope with the uncertainties in demand planning and replenishing the shelf. Lack of complete integration of the shelf-level demand with supply chain planning functions inhibits a company's ability to execute, and an incomplete picture of demand can result in poor inventory deployment decisions.

Typically, account management tends to operate in a silo and there is little communication or collaboration between the customer strategies upstream and the demand planning and supply planning teams or category management for that matter. This lack of collaboration is compounded by the fact that most CPG companies are forecasting distribution center (DC) shipments rather than trends based on actual consumption data that can be tracked using POS data sharing with retailers. This can cause large disconnects between the true demand and available supply. The Shelf-Connected Enterprise helps bridge these gaps.

Demand synchronization entails tapping into POS data directly from the retailer. POS data provides CPG companies with the ability to understand trends at the shelf level. POS data is the purest form of consumer demand, unlike DC shipment data, which is driven by elements such as order cycles, order minimums, trade promotion programs and retailer sales strategies (for example, forward buying, CPG inventory push strategies). POS data enables more informed and accurate analytics to be performed by Sales, Marketing and Demand Planning departments than could be performed with DC shipments alone. Additional forecasting and demand-sensing processes and technologies can further evaluate daily shipment history, POS and customer orders and better identify both short- and long-term demand patterns.

Account management teams can leverage POS data to more accurately analyze the effectiveness of promotions in order to better determine the sales lift attributed to various promotions such as discounts, buy-one-get-one-free, end-cap displays and coupons. This enables the account team to develop more effective promotional plans for the future and calculate a more accurate ROI for each trade activity.

Trade Promotion Management (TPM) and Optimization (TPO): While the overall objective of trade promotion management is to maximize revenue and improve spending efficiency, trade promotion optimization is focused on improving lift by using real-time data — including consumer demographics, purchasing behaviors, point-of-sale transactions and syndicated research. Better promotion optimization means more accurate sales planning, which leads to a measurable increase in incremental sales. A lift in sales means a greater return on trade promotion investments and assets. The Shelf-Connected Enterprise assists in two ways:

- Data-driven scenario planning: Statistical modeling provides the insights to do a better job balancing the trade-offs in trade promotions, including discount, price, time frame, product mix and in-store placement. The analysis is performed by customer and deal by store and individual week. This output enables appropriate tactical actions such as the elimination or curtailing of unsuccessful events or the improvement of future events. At the same time, a greater understanding of how and why consumers respond to different attributes within a promotion allows for improved event design in the future.

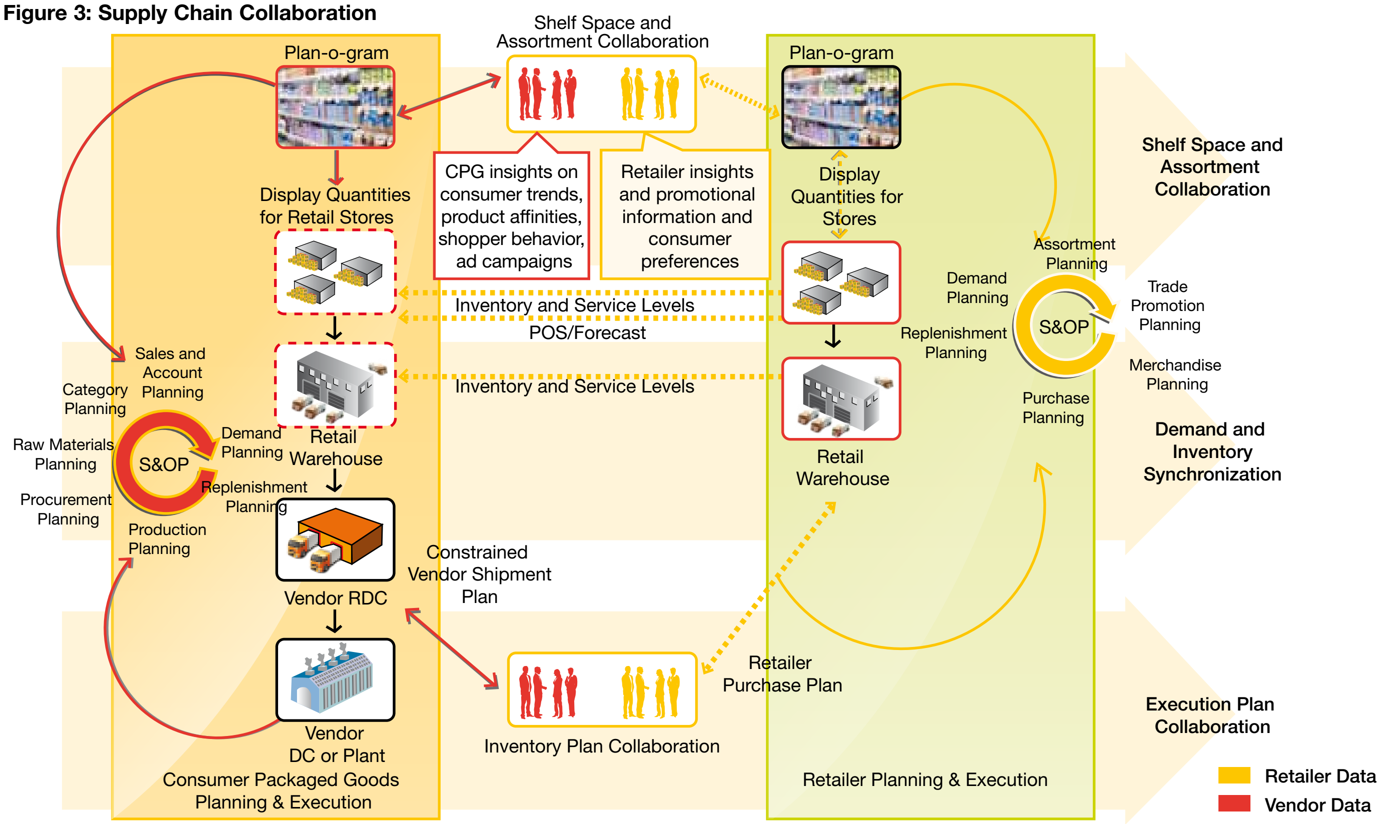
- **Integration with retail execution:** Core trade promotion management activities (planning, execution and tracking) are integrated with retail execution through a merchandising audit and retail audit. This capability serves two purposes. First, it provides checks and balances for making sure that the promotion is executed in the store as planned. Second, it helps identify what gaps exist between planning and execution activities, and how key learnings can be fed back into the planning and negotiations next time around.

Today's typical ROI analysis skews both the cost and revenue because of hidden expenses, mark-downs, scrap and returns. The analysis of pocket margin by customer/product combinations is now feasible due to the integration of the following variables into the Sales and Marketing planning functions: gross-to-net, cost-to-serve, cost of new product introductions and consumer marketing mix allocation. With a Shelf-Connected Enterprise, hidden costs are exposed, and the CPG manufacturer views the total event cost and true event lift.

The additional analysis by Sales/Marketing/Account Management of existing promotions and future promotions allows planners to provide Supply Chain with a more informed picture of normal demand vs. lift demand due to promotional activity. Supply Chain and Marketing can collaborate on the retail demand plan, which translates to a final and more accurate forecast or single version of the truth for the enterprise to plan against.

Inventory Planning Synchronization: A higher degree of forecast accuracy has a direct impact on the rest of the supply chain since an accurate forecast is the foundation for developing a time-phased, multi-echelon replenishment plan. The forecast can be combined with other key data points from the retailer – such as product inventory levels at the store, product already in transit or on-order, product at the retailer's warehouses, desired customer service levels and supporting safety-stock policies – to calculate net inventory requirement for each node within the retailer and CPG supply chain. By synchronizing inventory strategy and logistics with their retail partners, CPG companies can better understand the true inventory

Figure 3: Supply Chain Collaboration



requirements and thereby minimize errors in the upstream plans.

This visibility enables CPG companies to have a truly agile supply chain response capability and the ability to react in a synchronized fashion with retailer inventory strategies to reduce disruptions in the extended supply chain. Together, the CPG companies and the retailer can now identify and prioritize the different types of demand signals and deploy inventory from the most cost-effective supply location. The demand signals can also form a baseline for inventory rebalancing strategies, which provide opportunities to further improve inventory volume and performance across the two networks. Inventory requirements that are aggregated from the store and DCs provide Manufacturing and Logistics with the ability to plan and support short-term and long-term production plans across raw materials, carrier requirements and labor schedules.

Supply Chain Execution Collaboration: To ensure the consistent success of the shelf-connected plan, retailers and CPG companies must collaborate on demand and shipment plans within the execution window. Retailers have vital information on demand influencers such as discounts, promotions and ad campaigns, and these programs are constantly changing, often within the manufacturing freeze window duration. Having visibility into the retailer's inventory strategy and POS data enables CPG companies to manage inventory and resource constraints and produce an executable deployment plan to meet projected consumer demand (see Figure 3).

Collaboration within the defined execution window will also provide the manufacturer's upstream production-related activities with the most current information to plan, prioritize and react against the latest consumer demand. Lastly, a feedback or reporting mechanism is required for manufacturers to evaluate their performance for a particular retailer and across all customers. This will provide direction to internal project improvements as well as identify key areas to address with retail partners.

Other Key Functions: The Shelf-Connected Enterprise takes into account leading trends in how CPG manufacturers differentiate themselves in a competitive marketplace. Collaborative Category Management, Demand and Inventory Planning Synchronization, Trade Promotion Management and Supply Chain Execution Collaboration require alignment with the overall value chain, including Sales, Marketing, Product Development and Finance. Following are additional areas that must be aligned within the Shelf-Connected Enterprise and how they would benefit.

- Financial Planning: Improved forecast accuracy will provide category management teams with more accurate budget for planning purposes. Increased collaboration on retailer DC and store receipt plans will allow more optimal use of capital.
- New Product Development: Increased collaboration internally among Product Development, Sales, Marketing and Supply Chain and external collaboration with retailers will provide strong feedback for improvement or variation of the current product mix.
- Marketing Optimization: Visibility of inventory requirements (base and lift) across store, catalog and web sales channels will be improved. CPG brands will be better aligned with financial objectives and overall company strategy. In addition, integration of the shopper marketing strategy will better align consumer marketing programs with trade strategies and incentives that lead a shopper to purchase.
- HQ Planning and Pricing Optimization: Store POS data will assist in managing price elasticity and determine optimal pricing strategies throughout the product's lifecycle; assist with segmentation strategies (national vs. account based); and identify the most effective promotions and tailor budget to drive growth.
- Available-to-Promise (ATP), Capable-to-Promise (CTP), and Available Allocated-to-Promise (AATP): ATP and CTP capabilities have been around in some fashion for decades. However, they typically only looked at available inventory. By linking the actual production schedules with the demand forecast, inventory and shelf plans, a real-time view of product availability can be used for in-season inventory management to better meet customer needs. AATP is used for modeling the allocations and intelligent decision making with a focus on respecting and changing allocations during order promising. As part of an exhaustive ATP search, supply chain managers can search channels to find available supply. A common use of allocations is to give the appropriate relative priority to demand channels (stores vs. wholesale vs. online, etc.). This allows a seller to promise orders with the right mix of fairness and preferential treatment to maximize business objectives.
- Network & Inventory Optimization: Synchronizing demand and inventory strategies in the Shelf-Connected Enterprise can help ensure that correct inventory, production and distribution decisions are made throughout the supply network. By synchronizing data across the extended network and leveraging optimization capabilities, CPG manufacturers can model the entire supply chain and analyze multiple scenarios to determine the optimal network and inventory policies, flow path strategies and options, along with a host of other analyses.

- Sales & Operations Planning (S&OP): The ability to share demand forecasts, inventory plans and production schedules through a Shelf-Connected Enterprise is paramount to enabling S&OP planning processes and gaining a mechanism for resolving issues as well as capitalizing on opportunities. This sets the stage for realizing effective collaboration and mutual benefit. A Shelf-Connected Enterprise provides relevant information that is needed for the S&OP process on a more real-time basis. The availability of this information has caused some CPG manufacturers to speed up the cadence of components of their S&OP processes.

- Production Planning & Scheduling: Production and raw material requirements are more closely linked to consumer demand. New processes and technology enable planners to make more informed decisions when developing plans and making changes to their schedules.

The Size of the Prize – The Business Case

Through the Shelf-Connected Enterprise model, CPG manufacturers can achieve the benefits of higher in-stocks/service levels, faster new product introductions, improved margins and higher inventory turns. In Capgemini's experience, implementing an enterprise approach can result in benefits in the following areas (illustrative sample):

Top-Line Growth
- 1% – 3% incremental revenue increase
- 1% – 5% reduction in cost per incremental unit

Margin Enhancement
- 5% – 15% margin increase
- 3% – 5% in markdown reduction improvement

Efficiency/Cost Reduction
- 2% – 5% sales associate productivity gain
- 10% – 30% deduction in days outstanding and cycle time reduction
- 5% – 10% fewer deductions

Working Capital Improvements
- 5% – 35% overall reduction in network inventory
- 9% – 42% promoted volume forecast accuracy improvement
- Reductions in changeovers, rush shipments and raw material write-offs

Why Now?

Our experience in the marketplace tells us that most CPG manufacturers are experimenting with at least some elements of the Shelf-Connected Enterprise and some have had success with pilots or other limited tests. We are not aware of any companies that have fully implemented the integrated Shelf-Connected model described here. Aside from the clear business case benefits, we believe that moving quickly to the Shelf-Connected model is imperative for maintaining competitive advantage in the crowded CPG marketplace. In addition, retailers are beginning to expect and demand these value-added services from their trading partners. Clearly, developing a roadmap to implement the Shelf-Connected Enterprise is critical to the future success of any CPG manufacturer.

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For more information on the Shelf-Connected Enterprise, as well as Capgemini's complete supply chain solutions, please contact:

Alex Kushnir
Phone: +1 404-917-4484
email: alex.kushnir@capgemini.com

Mike McCullough
Phone: +1 773-230-0539
email: michael.mccullough@capgemini.com

Ben Pivar
Phone: +1 404-229-3352
email: ben.pivar@capgemini.com

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