

SEGMENTATION IN THE CONSUMER SUPPLY CHAIN

ONE SIZE DOES NOT FIT ALL

By Peter Dawe, Alicia Pittman, and Elfrun von Koeller

IN THE PAST COUPLE of years, supply chain leaders at consumer packaged goods (CPG) companies have instituted all kinds of efficiency improvements, from trimming cost to serve to optimizing working capital. Now, with few straightforward options left, many are beginning to wonder whether, by treating every product the same way, they are experiencing “death by averages.”

These leaders are well aware that their companies are missing sales because of out-of-stocks on key stock-keeping units (SKUs). They also know they’re spending unnecessarily to lift fill rates on items that lack the urgency or payback value of, say, key staples and seasonal products. Some CPG companies are even ceding share in promising high-margin lines to specialty rivals because their forecasting process cannot accommodate most new and seasonal products or small but growing channels.

The fact is, for the CPG supply chain, scale is no longer the only game in town. Building scale (and seeking cost efficiencies) was

a strategy that yielded considerable advantage in a stable, more predictable business environment in which major retail customers were also consolidating. But big changes in the packaged-goods environment are threatening the traditional operating model and altering the prerequisites for staying ahead.

According to the 2015 Supply Chain Benchmarking Study conducted by BCG and the Grocery Manufacturers Association, companies are grappling with SKU proliferation, channel proliferation, and growing complexity, while retailers’ expectations remain as high as ever.¹ Despite greater fragmentation, a persistently lackluster market means that CPG companies must win in new channels (such as dollar stores and online) as well as in traditional channels. On top of these challenges, “power SKUs”—a company’s flagship products—are no longer the main propellants of growth and market share. Many companies are buying smaller, growing brands that have entirely different supply-chain capabilities in order to meet their needs.

This increasingly high-pressure business environment is straining the traditional CPG operating model. It's clear that CPG companies can no longer afford to follow a one-size-fits-all approach. Treating different products and customers in the same way exacerbates supply chain pressures and leads to deteriorating service levels, unnecessary costs, waste, and subpar customer outcomes.

The Case for Segmentation

In the modern supply-chain environment, segmentation is becoming more and more valuable. It involves treating products, customers, channel segments, and stores differently according to their different characteristics or needs. This can mean using any one or more of the following tactics:

- Prioritizing manufacturing lines for the highest-velocity SKUs
- Tolerating the risk of out-of-stocks for certain products—or, conversely, being willing to express-ship or carry excess inventories to avert out-of-stocks that could risk the loss of end customers (think over-the-counter pain medications)
- Serving different categories of customer at different intervals
- Using different trucking service levels and agreements for different customers
- Changing shipping policies to allow less-than-full truckload capacity for high-margin items

Whether in planning or forecasting, production or transportation, segmentation creates degrees of freedom for companies to manage what are, in many cases, intractable challenges. Companies can more effectively allocate resources, fine-tune trade-offs, and generate options.

Segmentation is hardly a revolutionary idea. Other industries, notably pharmaceuticals and fashion, have implemented it with positive results.

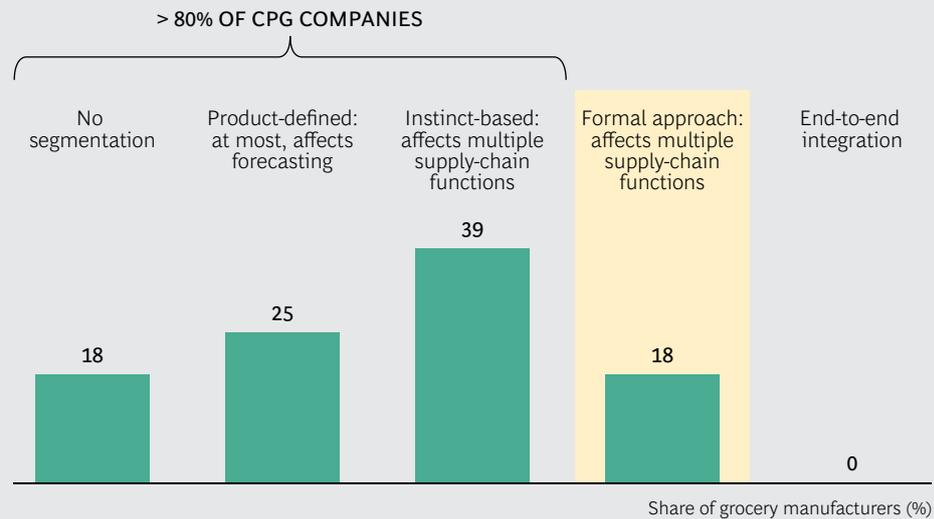
Consider the experience of a mid-sized U.S.-based biopharmaceutical company. Disenchanted with poor customer outcomes, lack of alignment on priorities, and waste, the company established four product segments based on volume and volatility. For its high-volume, low-volatility segment, it aimed for stable inventory and a make-to-stock manufacturing approach. For its low-volume, high-volatility segment, it aimed for make-to-order to eliminate unnecessary inventory. As a result, top products enjoyed shortened lead times and the company was able to allocate resources more sensibly, trim inventory and waste, and reduce obsolescence. Its resulting supply-chain performance became a competitive differentiator for the company's most prized products.

In the consumer products world, segmentation is mostly in the early stages. Among our study participants, only 18% have implemented a formal approach integrated across multiple supply-chain functions. (See Exhibit 1.) Of the roughly 80% of companies that lack a formal process, nearly half are taking an instinctive approach—segmenting SKUs by volume, profitability, shelf life, production requirements, or some combination thereof.

So what are the impediments to adoption? There are several.

For one thing, the asset base of most CPG companies is constructed for mass production, making segmentation tough to implement. In addition, the easiest area in which to apply segmentation—planning—continues to be a black box for most executive teams. Some companies struggle to quantify the costs and benefits, including determining production for higher- versus lower-margin products. Others worry about selecting the right segmentation model; defining products, for example, isn't always clear-cut. Still others are reluctant because their systems are unable to set SKU- or segment-level parameters. Finally, some companies worry that by prioritizing certain customers, they will automatically be giving others less attention—which might not be viewed favorably.

EXHIBIT 1 | Few CPG Companies Take a Formal Approach to Segmentation



Source: 2015 BCG/GMA Supply Chain Benchmarking Study.

These concerns are certainly legitimate. But, as companies' experiences thus far have demonstrated, they can be significantly mitigated—and overcome. A thoughtful approach can unlock significant value. No matter what, segmentation will increasingly be a required CPG supply-chain capability.

Benefits, End to End

Segmentation yields benefits that run across the entire supply chain, from demand planning and production to logistics. Often these benefits generate additional indirect benefits. (See the sidebar, “Segmentation Helps an Apparel Maker Stay on Track.”)

- Improved Forecasting Accuracy.** By focusing on key segments, such as high-volatility products, CPG companies can increase forecasting accuracy by 10% to 15%, according to the experience of BCG's clients. For their stable segments, CPG companies can rely more on system-generated forecasts and historical data, thus freeing up employees so they can focus on higher-priority segments and engage in higher-value activities.
- Reduced Inventory Waste.** Segmentation helps cut inventory waste—not only through improved forecasting

accuracy, but also by enabling segment-specific inventory strategies. For example, companies can ensure more safety stock for high-volume or high-volatility items and increase the efficiency with which they manage inventory for more stable SKUs. They can replenish stock for different product categories according to inventory targets. Companies that BCG has worked with have achieved inventory reductions of 10% to 30%.

- Easing of Transportation and Other Logistics Pressures.** Segmentation helps guide smart decision-making about tough logistics choices, such as transportation (now the number-one concern of CPG supply-chain leaders, as discussed in *A Hard Road: Why CPG Companies Need a Strategic Approach to Transportation*, BCG Focus, July 2015). In a low-growth environment with mounting cost pressures, that ability is particularly important. Companies can make strategic choices regarding transportation based on the product segment's priorities, such as speed to market, cost, or reliability. Segmentation helps inform—and optimize—planning, in everything from determining the appropriate transportation mode and the number of delivery points to network design.

SEGMENTATION HELPS AN APPAREL MAKER STAY ON TRACK

A young, global outdoor-apparel company (we've disguised its identity) had an ambitious growth plan: to triple its 6,000-plus SKUs in less than three years. The trouble was, the company was becoming a victim of its own success. Rapid growth and newfound complexity had, in relatively short order, triggered a supply chain crisis. Missed production targets, widespread delays, and unpredictable delivery times were making retailers increasingly dissatisfied. The company had little visibility into its performance, which further strained its ability to manage production, distribution, logistics, and client service. Unreliability was starting to threaten the retail relationships the company had worked hard to cultivate.

Among the company's greatest woes: too many SKUs were either outdated or had to be discounted, while too many others were in short supply. In addition, some products reached store shelves too soon, others too late. Segmentation would help shed light on the logistics needs of each product according to its place in the company's product line. And that could help the company determine where to apply resources to reduce waste and unnecessary costs and boost profitability.

With BCG's help, the apparel maker defined four categories of SKU, each representing tolerance to different inventory levels, suitability for discounting, and sensitivity to higher transportation costs (where expediting mattered). For example, core products that sold

year-round (such as lightweight rain jackets) needed to be continuously manufactured and in full inventory. The company also needed to decide which SKUs justified the investment in short lead times. (This was particularly important because the next year's styles had to be locked in before the current season's sales results were in.)

Armed with this data, the company could realign multiple processes, from production and pricing to shipping, to match customer demand and profitability. It also had the information that customers needed up-front to order and plan with greater visibility and assurance.

One of the most significant adjustments for the company was changing the production logic for its fashion runs. Because of its own high labor costs, the company had long believed it was cheaper to manufacture its high-volume, staple SKUs in its own plants and outsource the lower-volume, fashion items. But the reverse was actually more logical: outsourcing the high-volume runs would be more cost effective, giving the company greater flexibility to manufacture its higher-priced, higher-margin items in-house. By producing these items in-house, at manufacturing plants close to distribution centers, the company could get them to market faster.

Although still at an early stage, segmentation has had a substantial impact: within six months of implementing the changes, the company boosted on-time delivery to retailers by 10%.

Even at the point of production, segmentation has the potential to deliver substantive, if less easily quantified, benefits. Improved forecasting accuracy facilitates production sequencing and reduces the time needed for changeovers. Because production sequencing is tied to segment

needs, high-volume SKUs can be run daily and lower-volume ones can be planned at less frequent intervals—thus improving capacity utilization. And customers win, too, with fresher product. (See “Demand Forecasting: The Key to Better Supply-Chain Performance,” BCG article, October 2014.)

Ready, Set, Segment: Key Considerations

Understanding the profitability (and costs) of each segment can make a dramatic difference in driving organizational alignment and decision making. It can help supply chain leaders determine where to put their best people or financial resources, whether for planning, branding, or other purposes.

So what questions do companies need to weigh when they decide to undertake supply chain segmentation? We see two, pertaining to the segmentation approach used and the parts of the value chain to be segmented.

Which segmentation approach is best?

Generally, companies can segment by product, customer, or channel. The vast majority of those we studied (71%) segment by product. Of these, 43% segment products by volume. A large percentage (61%) also segment by customer. However, less than half of this group takes a strategic approach driven by objective factors, such as customer sales volume or location. Most simply react to retailers' demands.

Product segmentation can be used to gauge demand and drive service levels and production: "A" SKUs, for example, merit higher fill rates and greater immediate manu-

facturing capacity. It can also guide warehousing policy: "D" SKUs need more inventory since they are produced less frequently.

A dairy producer we interviewed, for example, segments inventory, service, and packaging by customer as well as by product. In service, it created three segments according to customer volume, growth, and profitability. On-time targets are set according to the delivery-stop sequence, while higher targets are set for first stops on a route. The company even creates special packaging for certain big-box customers.

Once a company establishes its approach, it must choose the criteria for its supply-chain design. These range from product velocity and demand volatility to production lead time and shelf life—and, of course, profitability. (See Exhibit 2.) For example, the dairy producer alters its product fill rates by SKU velocity, making adjustments during promotions and other intense sales periods. Segmenting by sales volume and demand volatility is also common in product segmentation.

A leading confectionary company segments its SKUs by velocity and profitability, which influence safety stock and service levels. The company expects segmentation to pro-

EXHIBIT 2 | Product Criteria for Supply Chain Design

		Low		High		
"D" SKU 	Customer may excuse out-of-stocks		VELOCITY	In-stock rates very important		"A" SKU
GROCERY BASIC 	Historical data informs orders		DEMAND VOLATILITY	Forecast accuracy is key		SEASONAL/PROMO
BASE ITEM 	Hard to differentiate on service		PRODUCT MARGIN	Out-of-stocks particularly painful		IMPULSE
CORE PRODUCT 	Low safety stock required		PRODUCTION LEAD TIME	Safety stock is key		SPECIALTY ITEM
SMALL/LIGHT 	Can air ship to avoid out-of-stocks		SIZE/WEIGHT	Some shipping modes cost-prohibitive		BULKY/HEAVY
FRESH 	Quick transport necessary to prevent expiration		SHELF LIFE	Transportation speed not a significant factor		SHELF-STABLE

Sources: BCG case experience; BCG analysis.

duce additional insights that will influence decision making throughout the organization and further augment performance.

Which parts of the value chain should be segmented? Next, the company must determine its segmentation strategy. Any number of functions can be segmented. The ones most commonly segmented today are forecasting (54% of the companies we studied use this approach) and warehousing (36%). To boost forecast accuracy and reduce inventory, one company that BCG worked with collaborates with key customers on detailed forecasts. But other companies have gone further, segmenting sales, manufacturing, and even procurement and transportation.

A company's capabilities, as well as the potential value of the total segmentation effort, will determine how far it can go. Certainly the more end to end the implementation, the more profound the impact and potential value. Functions need to be aligned; that means formally sharing data and setting and tracking targets.

A Segmentation Litmus Test

Implementing segmentation is not quick work. It requires gathering data (and working around the lack thereof) to assess readiness, gauging the potential value, and weighing the cross-function impacts. Given all the variables and interdependencies at any given company, there is no surefire formula. But answering the following questions can be a useful first step:

- Are you treating all your products—or all your customers—alike?

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- Does everything feel like a top priority? Do you struggle to make trade-offs when required?
- Are you paying more to deliver service on items that represent too small a proportion of your sales?
- Are you dissatisfied with customer outcomes? Are your customers complaining about order fulfillment, delivery times, or inventory issues?
- Has the drive for efficiency cost you in flexibility?
- Is there more waste (or obsolescence) in your processes than you would expect?

Segmentation can be a significant advantage for a company's supply chain. Beyond stanching waste and unnecessary expenditures, it can help boost profitability—by re-deploying resources more wisely, generating new insights, and helping to get the most value out of every category.

NOTE

1. The 2015 study, the fifth conducted jointly by BCG and GMA on outbound supply-chain logistics, was based on surveys and interviews with supply chain executives at more than 40 leading CPG companies. Its findings are presented in *A Hard Road: Why CPG Companies Need a Strategic Approach to Transportation*, BCG Focus, July 2015; *Time to Shift Gears: Top Trends in the CPG Supply Chain*, BCG Focus, October 2015; and a forthcoming report on direct store delivery practices.

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