

LESS CAN BE MORE FOR PRODUCT PORTFOLIOS

ATTACKING COMPLEXITY WHILE ENHANCING
THE VALUE OF DIVERSITY

By Hannes Pichler, Peter Dawe, and Love Edquist

HOW MANY VARIETIES OF your favorite soft drink do you see on supermarket shelves? Does “diet and decaffeinated, with cherry-lime flavor” appeal to you more than “lemon flavor with energy boost”?

A high degree of product diversity has become the norm across all industries in recent years as manufacturers have expanded their product portfolios to capture new revenue sources. The product variations can be staggering to consider. For example:

- More than ten different fragrances for one fabric-softener product
- More than 30 different refrigerator-door handles for one white-goods brand
- Nine sizes of one flavor of a cookie brand in a single region

Many companies have found that offering a diverse product portfolio is essential for maintaining a competitive edge. However, companies often launch product variations

without fully understanding the extent to which the variants will increase complexity and costs in the supply chain or be considered valuable by customers. As a result, the avalanche of new products has often generated higher costs without a clear payoff. U.S. consumer-goods companies, for example, increased the number of new products introduced annually by nearly 60 percent from 2002 through 2011, resulting in significantly higher costs throughout their supply chains. However, those companies’ total sales during that period grew at just 2.8 percent per year, a rate that only slightly exceeded inflation. A similar disparity between the number of products launched and the revenue growth achieved has occurred in Europe, across industries.

Recognizing the Dangers of Complexity

The complexity that results from expanding a product portfolio’s diversity increases costs throughout an organization, but many companies have not recognized the full scope of the danger:

- Production facilities often need to be reequipped each time a variant is processed, which results in downtime that reduces capacity utilization and increases processing costs. Downtime from a single product changeover can exceed ten hours, even if the differences between products (such as size, color, or packaging) are minimal. Experience with clients of The Boston Consulting Group shows that complexity-driven downtime can reduce overall equipment effectiveness (OEE) by up to 20 percentage points.
- The procurement department needs to purchase a large variety of ingredients and materials and enlist a large number of suppliers, making it hard to leverage scale. The higher procurement costs imposed by complexity can amount to 2 to 5 percent of the cost of goods sold (COGS).
- Because it is difficult to accurately forecast demand for a large number of products, fill-rate targets are often hard to achieve and the distribution department is burdened with high inventory levels that increase the net working capital. Some manufacturers end up maintaining twice the inventory level that they actually need.
- Costs for overhead and administration increase significantly as the company struggles to manage a large product portfolio.
- The overabundance of products and high level of complexity make it hard for sales teams to identify, and focus their efforts on, the most valuable products in the portfolio. And because a diverse product assortment often lacks a clear value proposition, the marketing and promotion budget is not spent effectively. Higher marketing costs and lower sales-force effectiveness result.

Although many companies have attempted to reduce the complexity of their product portfolios, their programs have often had a

misplaced emphasis on eliminating low-volume products (the “long tail”). But because in many cases low-volume items are produced at different plants and on different production lines, eliminating them rarely addresses the root causes of complexity’s higher costs. Such efforts may also inadvertently result in a decline in revenues and market share because companies often underestimate the value of low-volume products to customers.

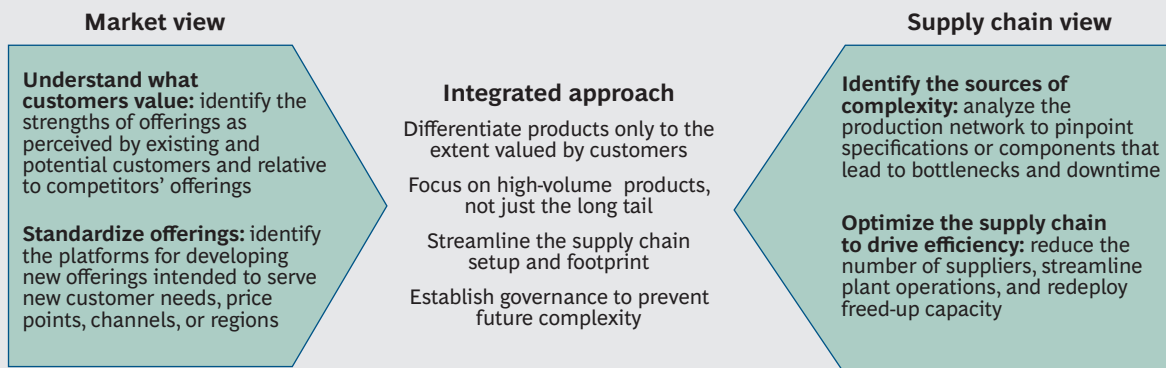
Given these challenges, it should come as no surprise that a BCG survey of top consumer-goods executives found that many are dissatisfied with their company’s efforts to reduce portfolio complexity. Although more than 90 percent of these executives indicated that their companies had launched complexity reduction projects, only 15 percent considered their projects to be successful. Many executives were concerned that complexity reduction could be achieved only at the expense of revenues. Many also indicated that they lack reliable market data, so it is difficult to identify the product variants that are the most valuable and thus should be kept. Additionally, executives cited the absence of cross-functional coordination and of senior-level participation as obstacles to engaging the entire organization in complexity reduction projects.

Combining Insights from the Market and the Supply Chain

In our experience, companies can overcome the challenges and emerge with a product portfolio that is less complex without negatively affecting consumer perceptions of the product portfolio’s variety. The solution entails combining insights about the market and supply chain to make the right trade-offs between the value of diversity and the cost of complexity. (See Exhibit 1.) By maintaining portfolio diversity at a significantly lower COGS, companies can achieve higher profit margins as well as tap new sources of revenues.

A food manufacturer used this combined approach to analyze complexity and value within its biscuit portfolio. It found that the

EXHIBIT 1 | Integrating Market and Supply Chain Views Can Reduce Complexity and Capture Value



Source: BCG analysis.

wide variety of biscuit diameters among its brands and regions was the main driver of complexity in its manufacturing operations; however, it also determined that consumers did not consider this variety valuable. Applying these insights, the manufacturer was able to reduce the number of product specifications (including but not limited to diameter) in its biscuit portfolio by nearly 60 percent (from approximately 680 to approximately 280), while reducing the number of SKUs by only 15 percent (from about 2,000 to about 1,700). (See Exhibit 2.) Over the next several years, the company expects to lower its COGS by 4 to 7 percentage points and increase its sales by up to 2 percentage points through this complexity-reduction program.

The combined approach builds on analyses that many companies already conduct. Almost all companies invest significant resources to obtain an in-depth understanding of the market for their products. They conduct market research to identify the strengths of their offerings as perceived by existing and potential customers and as relative to competitors' offerings.

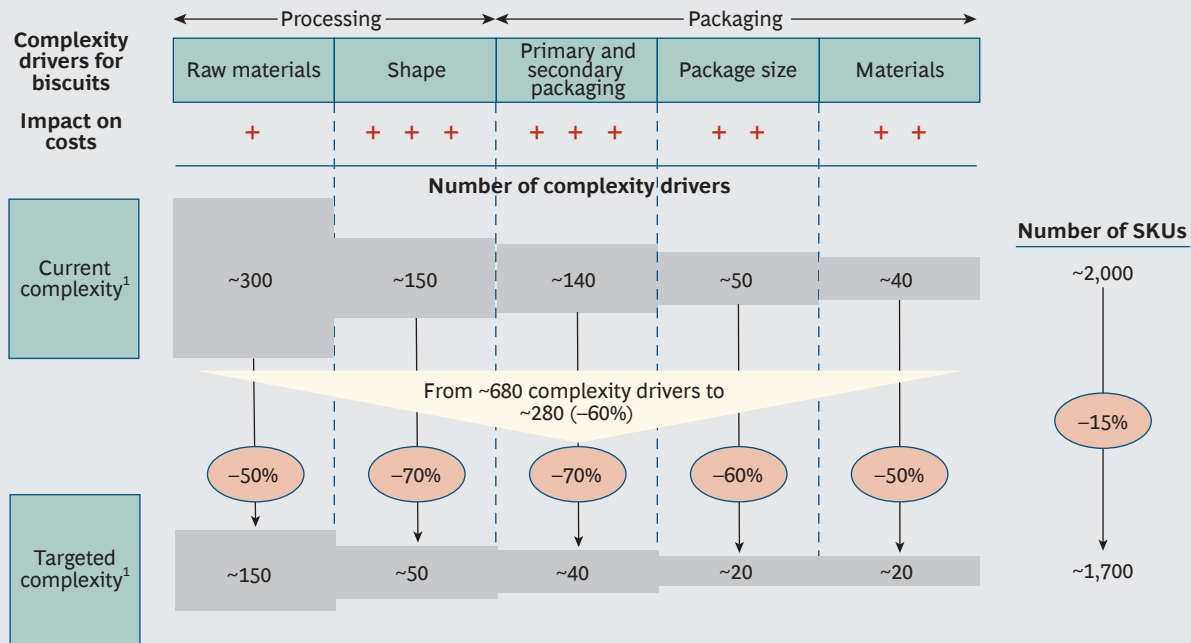
However, leading companies go further: They determine precisely which product attributes consumers value and then develop a strategy for diversifying products only to the extent required to meet consumer needs. At the same time, they use supply chain insights to standardize the product

components responsible for the highest costs of complexity. Combining market and supply chain insights allows these companies to determine which products and attributes are their most successful “platforms” from the perspectives of value and cost. These platforms can serve as the basis for developing offerings that serve new customer needs, price points, channels, or regions with minimal added complexity.

Leading companies focus their complexity-reduction efforts primarily on high-volume products because these items offer the greatest savings opportunities. They also provide the marketing and supply chain functions with a “common language,” including terminology and metrics, to facilitate communication and decision making. And they create full transparency into the costs of complexity to provide a solid fact base for decisions throughout the organization.

Identifying the successful product platforms and the related high-volume items allows companies to target their efforts to optimize their supply chains. Leading companies analyze their production network to understand which specifications or components are the sources of complexity that lead to bottlenecks, downtime, and, ultimately, higher costs. By pinpointing where complexity requires the greatest use of resources, companies gain insights into the types of complexity reduction that will

EXHIBIT 2 | A Food Manufacturer Significantly Reduced Complexity While Maintaining Product Diversity



+++ = High ++ = Middle + = Low

Source: BCG case experience.

¹Number of specifications.

yield the greatest value in terms of supply chain efficiencies. For example, a white-goods company determined that its multiple formats for display and handle cutouts in refrigerator doors drove its greatest supply-chain complexity; however, market research found that these attributes did not significantly affect consumers' purchasing decisions. The company determined that it could reduce changeover times and free up valuable production capacity by reducing the number of formats by half.

Based on insights such as these, companies can apply several measures to optimize the supply chain. (See the sidebar "Practical Steps for Attacking Complexity Without Jeopardizing Value.") Such measures can enable companies to reduce the number of suppliers, redeploy freed-up production capacity, streamline plant operations, or even close plants. Because complexity affects the entire organization, these efforts can generate savings in multiple areas. In our experience, however, most of the savings is achieved through in-

creased OEE, greater network consolidation, and reduced costs for logistics, procurement, and overhead. Companies achieve the greatest savings if the reduced complexity allows them to free up production resources in markets suffering from capacity constraints. In fact, BCG's experience shows that companies can reduce COGS by 2 to 7 percentage points while maintaining steady production volume and not diminishing consumers' perceptions of the product portfolio's variety. More than 25 percent of the total cost savings can be realized within the first year, which is generally sufficient to cover the costs of implementing such projects.

Sustaining complexity reductions over the long term can be difficult, especially for companies with high rates of innovation and frequent product launches. If a new generation of products is not designed in a way that minimizes complexity, the improvements from past complexity-reduction efforts may be lost. To address this issue, leading companies establish clear

PRACTICAL STEPS FOR ATTACKING COMPLEXITY WITHOUT JEOPARDIZING VALUE

Companies need to take a variety of practical steps to put their combined insights from the market and the supply chain into action. Each approach should be designed to attack the sources of complexity without jeopardizing the sources of value. Here are two examples:

Harmonize Specifications

Harmonizing specifications along the supply chain (such as for ingredients and formulations, product specifications, and packaging) enables the company to reduce changeover times and free up line capacity, thereby generating savings through improved line efficiency. Growth opportunities for products with harmonized specifications can be pursued at lower incremental costs. Companies can achieve the greatest impact by harmonizing the specifications of high-volume products.

Standardize Ingredients and Packaging Materials

Companies can increase scale in procurement by introducing a “menu

card” that sets out standard ingredients and packaging materials. A company should select product ingredients and materials on the basis of cost, with the objective of developing a minimum number of base formulations. It should then diversify products only where the market analysis has identified a value to customers. This creates savings for procurement by allowing that function to purchase greater quantities of fewer ingredients, packaging materials, and raw materials.

Menu cards have the additional benefit of clarifying the costs of materials, which can promote a shift to less expensive components that provide the same overall experience for customers. For example, by limiting purchases of metal components to those set out on a menu card, a white-goods company reduced its COGS by 1 percentage point (approximately \$1.5 million) without affecting consumer perceptions.

criteria for acceptable levels of additional complexity with respect to formulas, packaging, technology, and regional variations. The criteria can also include limiting the production of certain product groups to particular plants to increase specialization. A committee of top managers from the marketing and supply chain functions supervises compliance with these criteria and has the authority to halt development efforts or require new designs for products that do not comply.

Starting the Journey

As an initial “health check” to evaluate the potential for improvement through this approach, companies should consider a number of issues:

- How many different products does the portfolio contain—considering not only
- product types and brands but also variants based on shape, color, flavor, and packaging dimensions? Do consumers value this variety?

- Does the company clearly understand each product variant’s value proposition and impact on complexity within the supply chain? Does it know the true cost of changeovers associated with high complexity? To what extent do the marketing and supply chain functions collaborate to obtain a cross-functional perspective on the trade-offs between value and complexity?

- Does the company know the incremental value and added complexity arising from its product-innovation efforts?

- How widely dispersed are the company’s production facilities? Would

harmonizing the product portfolio among regions offer a significant opportunity to reduce the number of facilities and combine their operations?

For many companies, this quick health check will point to significant improvement opportunities. By combining the perspec-

tives of the market and supply chain, companies can reduce complexity where it is most harmful while maintaining product diversity where it is most valuable. Companies that lead the way in taking this approach can achieve an important competitive advantage through both lower-cost operations and higher-value product portfolios.

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