

My supply chain is better than yours — or is it?

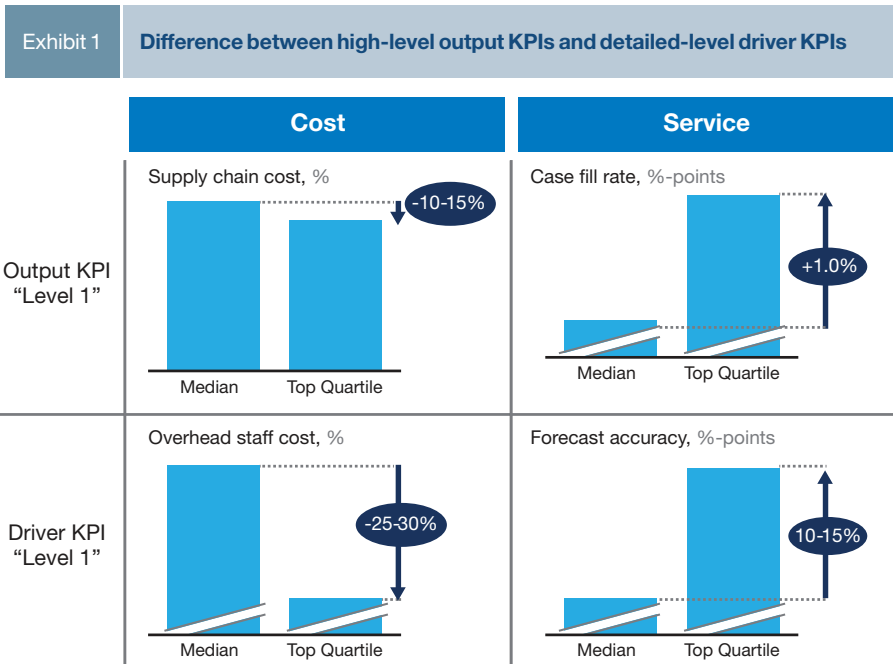
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More-detailed benchmarks show that supply chains can still yield significant value — building on the investments so many CPG companies have already made.

Supply-chain managers are in trouble. Customers want more — more variety, more convenience, more flexibility, and more service. But satisfying them adds still more cost and complexity at a time when across major economies consumer prices remain stubbornly low — and may fall under even more pressure.

The consumer-packaged-goods (CPG) industry's obvious response? Operations-excellence programs, which leading players have promised will yield multimillions to billions in savings while reducing resource costs and improving sustainability. With so many CPG players moving in the same direction, however, performance is naturally converging on many fronts at once. The result is that conventional metrics for finding new value, based on benchmarking high-level indicators such as total costs, inventory levels, and basic service-level metrics, uncover fewer and fewer opportunities for improvement. Furthermore, the remaining gaps between top and average performers, usually amounting to between 10 percent and 15 percent of total supply-chain costs, often appear to have an independent explanation: differences in product structure, for example, and demand volatility.

But appearances deceive. A careful analysis that filters out structural differences, examines specific supply-chain cost and efficiency drivers (including for labor or transportation per pallet), and quantifies the individual driver key performance indicators (KPIs) underlying the performance gaps can yield much greater optimization potential. Details such as these reveal improvement capacity of 25 percent or more on variables such as staff cost in some cases (Exhibit 1). The usual high-level excuses for those differences no longer hold, as we can really pinpoint the root causes.



The right KPIs, comparability, and granularity make benchmarking smarter

But finding these opportunities requires more detail than traditional benchmarks usually allow — as shown in a review of several hundred supply-chain projects conducted with consumer-goods manufacturers across the globe. Indeed, analyzing this history revealed three fundamental challenges in current supply-chain performance benchmarking: an excessive focus on cost alone, poor comparability between peer companies, and insufficient granularity in analysis. Together these factors prevented companies from identifying the genuine improvement potential that is critical to performance breakthroughs.

A new methodology, however, reaches beyond traditional benchmarking practices, which too often just mean gathering reams of undifferentiated data. Instead, a more rigorous benchmarking initiative collects and analyzes only the right data, at the right level of detail, with the right methodology to achieve full comparability. These three principles provide a guide:

- **Look at costs as only one part of the big picture.** Companies should resist the temptation to focus their benchmarking efforts exclusively on costs. Service, productivity, quality, and flexibility are also critical metrics that supplement cost as part of a more nuanced, multidimensional analysis. A global food manufacturer applying the new benchmarking approach found that its higher supply-chain cost was a price it paid for achieving higher service levels. But the higher costs were not uniform across all of its markets: despite similar levels of service and flexibility, some markets paid substantially more than others did.
- **Make apples-to-apples comparisons.** Benchmarking a warehouse handling mixed-pallet deliveries in South America with a full-pallet warehouse in Europe isn't a useful exercise; although the warehouses might handle similar products, there may be important differences in their way of working or in the overall labor-intensiveness of each handled pallet. Details matter in making sure the comparisons are valid. The global food manufacturer initially thought that one specific warehouse suffered from both a lack of efficiency and a higher cost base than the rest—a belief borne out under a rigid euro-per-pallet view of the raw cost data. But once the company normalized the data to account for structural differences in picking mix, warehouse size, and operational complexity, the opposite turned out to be true: the “high-cost” site was actually more cost-efficient than other warehouses in the same market.
- **Examine each step in the supply chain and get all relevant parties involved.** Some companies gather data only on high-level indicators such as the number of personnel in each plant or warehouse, the total cost per product, or the amount of waste per batch. These metrics can be helpful and are typically uncontroversial, but they might also obscure deeper insights that would emerge if a company instead compared individual steps in the production process. More granularity may require more alignment, with top management, supply-chain leaders, and plant managers supplementing the controller's view of which variables matter and how best to measure them. But the results can be worth the effort.

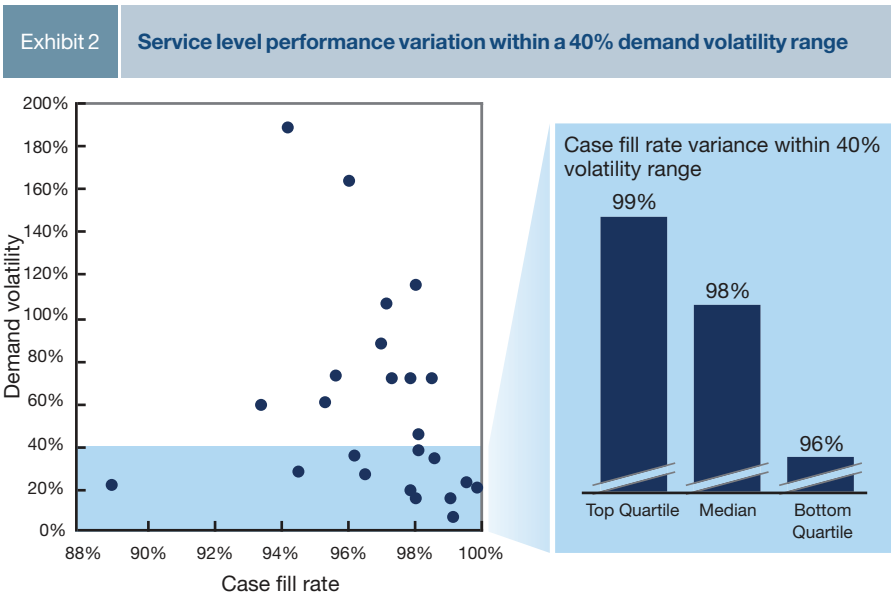
For example, a large dairy business appeared to have reasonable production costs. Only with a detailed examination of every step in the production process did the company realize that the picture was more complex. While the company's packaging process was highly efficient, any gains were offset by an outdated, energy-guzzling milk-drying machine. The obvious solution? Replace the milk dryer.

Smart benchmarking reveals great opportunities

A thorough analysis of this richer benchmarking data uncovered three critical lessons for the consumer industry's supply-chain leaders.

Managing volatility is the key to better service

Many supply-chain managers think that fluctuations in demand make service worse. However, our analysis found that it doesn't have to be that way. In fact, several companies manage volatility so well that they offer better service than their competitors, despite more pronounced fluctuations (Exhibit 2).



The best participants differentiate between volatility caused by the market and volatility they cause themselves.

Market-induced fluctuations in demand are always difficult to predict, yet incorrect forecasts can severely impact supply chain performance. That is why top-performing companies invest heavily in forecasting systems and capabilities (covering teams, processes, and systems) to achieve 10–15 percent greater forecast accuracy than their competitors. But the benchmarking analysis found that once forecast accuracy reaches about 75–80 percent, the marginal value of additional accuracy falls and

reactive capabilities become a better investment. One participant, for example, found that when its forecasting accuracy reached 80 percent, investments in flexibility—such as increases in production frequency for highly volatile SKUs—were more effective than additional forecasting accuracy was in raising service levels.

Self-induced demand fluctuations, due primarily to promotions, can have serious consequences unless they are managed carefully. But better estimates of promotions' impact can help turn demand volatility into a known quantity, creating a planning sweet spot that avoids both stock-outs and the hefty price of excessive safety stock. Consequently, manufacturers need to systematically identify and investigate internal volatility drivers and develop action plans accordingly. That makes closer cross-functional collaboration essential across sales, marketing, finance, manufacturing, and supply chain. Bringing all of this functional expertise together allows organizations to defeat the usual expectation that promotional intensity generally leads to loss in forecast accuracy. One company, for example, achieved more than 90 percent forecast accuracy on promotional products at both the SKU and store levels.

More warehouses means higher costs, but not always better service

The benchmarking data suggest that a higher number of warehouses increases total supply-chain costs by up to 8 percent for each additional warehouse. The reason is a lack of economies of scale in individual warehouses, which reduces productivity for the entire warehouse network. Companies in the average range would need to increase productivity in their warehouses by around 85 percent to reach the top quartile and another 70 percent to capture pole position.

Having more warehouses also raises capital costs: overall inventories of finished goods typically must be up to 30 percent higher to prevent local stock-outs. At the same time, the assumption that more warehouses would cut transportation distances—and therefore costs—has also not been confirmed. Several companies with multiple warehouses even reported substandard truck utilization and increased use of express logistics. And a higher number of warehouses does not seem to improve service levels; on the contrary, in some cases we observe more frequent local stock-outs, thus a reduction in service performance.

To avoid these outcomes, companies with many warehouses should fine-tune their planning, with clear reference to each individual warehouse. However, two out of three manufacturers still plan at aggregated network level instead. This could explain why companies with many warehouses often fail to deliver on their target service levels (see sidebar, “One company’s experience”).

Excellent service is possible even with relatively low inventories

Contrary to all assumptions, the best companies achieve very high service levels despite higher demand volatility. Furthermore, understanding the drivers of demand volatility typically reduces inventories of finished goods below competitors' levels. How do these success stories do it? Again we can turn to the differentiated benchmarking results, which point to three levers offering extremely high potential.

First, shorter “frozen periods” — periods when changes to the manufacturing schedule are not allowed — help the leading companies increase flexibility while simultaneously reducing their buffer of finished goods. However, only a few companies manage to adapt their supply-chain processes on a daily basis. Instead, average companies show frozen periods that are around 35 percent longer than the top quartile, which in turn are another 90 percent longer than the best in class.

Second, higher production frequency drastically reduces inventories of finished goods: companies that produce less naturally have less to store. But the higher a company's starting production frequency, the harder it seems to be to improve. Whereas average manufacturers would have to increase frequency by around 70 percent to reach the top quartile, companies that are already there would need to more than double their frequency to become one of the best.

Third, better schedule adherence reduces inventory levels. Here, however, the companies are already more similar than for the other two levers: the gap between average manufacturers and the top quartile is just 5–8 percent. The distance from there to the absolute peak is roughly the same.

Together with inventories of finished goods, we also analyzed other inventory types to identify optimization potential. In terms of stocks of unfinished goods (work in progress), the average companies are around 50 percent behind those in the top quartile, and from there another 60 percent behind the best competitors. For packaging materials, these figures are 25 and 40 percent, and for raw materials they are 35 and 55 percent. That said, manufacturers should be cautious about reducing stocks of raw and packaging materials, since too little inventory can limit flexibility. We therefore recommend examining inventories of finished goods, raw materials, and packaging materials all at the same time.

Smart benchmarking linked with cross-functional collaboration unlocks performance

The benchmarking results demonstrate in spectacular fashion how the best companies have improved transparency and performance management along the supply chain through more detailed and more comparable data, and have consistently

invested in processes, systems, and skills to reinforce understanding as well as responsiveness. In particular, the analyses show that cross-functional collaboration and real “insight mastery” are the key factors in using supply chains to successfully capture new areas of competitive advantage.

Accordingly, identifying and capturing improvement potential along supply chains will increasingly require new skills. While many might previously have considered supply chains to be the realm of specialists who may be more comfortable working with numbers than people, future success will depend largely on a combination of analytical and interpersonal skills. Now more than ever, supply-chain management is evolving into a cross-functional activity. Teams will have to interact more closely with other functional areas, such as sales and marketing, to identify the factors that influence self-induced volatility and agree on actions to manage it better. At these interfaces, people will need to be able to translate data and information into action, as well as communicate requirements to other units using language that is easy to understand.

One company’s experience

A multinational consumer-packaged-goods manufacturer embarked on a three-month pilot benchmarking effort involving two of its most important European markets. The data showed that across the two markets, the company’s total supply-chain costs ranked in the second quartile. As a result, the company showed a double-digit cost gap with an estimated value in the millions of euros.

The greatest individual potential proved to be in warehousing. A close review of specific warehousing cost gaps revealed significant performance differences across warehouses even within the same market. Among the root causes? High costs both for building and for direct and indirect salary expenses.

A joint analysis of inventories and service levels revealed further improvement potential. While inventory levels were best-in-class, service levels (particularly on-time, in-full fulfillment) were in the second quartile. Further examination found that a crucial contributing factor was an excessive focus on minimizing working capital levels. Allowing a focused increase in working capital thus led to improved service. Finally, the benchmarking enabled the development of new performance indicators, which led to upgrades in the company’s online supply-chain portal.

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