

Operations Practice

# Zero-based productivity: Going granular and end-to- end across the supply chain

Companies often believe they have extracted all significant cost savings from their supply chains. A zero-based approach can unlock additional value.

*by Matt Jochim, Rehana Khanam, Cecilia Martensson, and Curt Mueller*



**Over the years**, global supply chains have become ever more complex and are much more a strategic lever than just a function. Companies have access to a wider array of suppliers at home and abroad, as well as the technologies and tools to manage each step along the way. Continued market pressure is compelling executives to optimize costs and free up resources to invest in high-potential strategic areas. Supply-chain spending—equal to as much as 75 percent of total revenues for consumer-packaged-goods companies, for example—represents a significant opportunity, but companies will need to fundamentally rethink ways of working to achieve the required improvements.

A zero-based approach, which creates full transparency and scrutinizes end-to-end supply-chain spending, is uniquely suited to this challenge. To date, organizations have had several reasons to shy away from zero-basing their supply chains. First, COOs and supply-chain leaders are often uneasy about using zero-based methodologies on their direct costs, including cost-of-goods-sold (COGS) categories such as raw materials and conversion costs. In addition, executives tend to view supply chains as a dynamic system, so they believe it would be difficult to isolate and optimize individual line items through a typical budgeting process. Last, many companies have been successful in applying lean methodologies to achieve cost savings and mistakenly assume they have captured all significant value.

In our experience, the full potential cannot be quantified by applying traditional continuous-improvement methods alone. Rather than focusing on functional excellence, companies must take a step back and look across silos in their supply-chain functions to truly improve.

Companies can identify substantial untapped value by applying zero-basing to every part of the supply chain. An end-to-end assessment of opportunities, including the intersections between functions (for example, the effect of specification choice on manufacturability, or the quality of information shared between functions) is critical to

reduce complexity, optimize planning, and improve the coordination required to optimize the full supply chain.

By undertaking such efforts, businesses have achieved overall cost savings of up to 50 percent. However, without rigorous performance management and the right infrastructure in place, organizations will struggle to capture and sustain this level of improvement.

### **Where the value lies in a zero-based approach**

Although streamlining a global supply chain is a much different beast than right-sizing an organization or optimizing marketing costs, the foundational principles of zero-basing still apply. Zero-basing typically starts by breaking costs into four crucial categories—direct labor, indirect labor, warehouse and logistics, and materials (including yields)—and builds a bottom-up view on the optimum cost base. The range of opportunity in each category varies by industry and type of manufacturing. For example, in more automated settings or continuous manufacturing, direct-labor optimization may have less of an impact, whereas in manual assembly it is typically critical to savings opportunities.

### **Establishing granular transparency**

As a first step, companies seek to obtain unprecedented granularity into costs. This visibility, gained by aggregating data from internal and external sources, enables organizations to establish relevant benchmarks across spending categories. Data is collected from existing data sources and augmented by observations and targeted sampling where data is lacking. This granular data also includes regulatory and customer requirements, which set boundaries to the solution space.

### **Benchmarking to define the art of the possible**

Benchmarks are then used to compare the resources and capacity needed to support the organization's business strategy with the resources and capacity of the current supply chain. This

analysis acts as a reset, giving managers a better understanding of how others manage their supply chains. Benchmarks are used with intelligent target setting to determine aspirational—yet practical—business targets. While this approach may not seem very different from traditional benchmarking, the level of granularity in zero-basing is an important difference. Benchmarks at the narrow cost-bucket level often identify potential value that would remain hidden in more traditional, high-level analysis (see sidebar, “Applying an end-to-end approach to the supply chain”).

#### **Defining the “keep the lights on” state**

For a zero-based bottom-up assessment, a cross-functional team is tasked with identifying opportunities. In this step, a “keep the lights on” lens is applied to create full visibility on costs and activities related to different areas of the supply chain. The survival minimum is defined by customer value (for example, satisfying—but not exceeding—customer requirements for service, features, and specifications), regulatory requirements (such as hygiene standards), and nonnegotiable customer requirements, often related to quality.

At this stage, the costs of activities related to specific customer requirements and the costs of the organization’s own choices (often based on contingencies or concessions) are calculated and challenged for their contribution to the final customer value. Activities that are determined to be low-value are challenged before they are included in the future state. A classic example is where an organization has included an extra quality check as the result of a customer claim event—and continues to follow it long after the quality risk has been fully mitigated by addressing the root cause.

#### **Making informed strategic choices**

Once the survival minimum is established, the team then rebuilds the supply-chain function specifically to support business strategy (exhibit 1). This design of a strategic optimum is calculated at every step to enable the organization to make conscious choices. To define the target end state, the team considers further simplification and automation solutions to close the gap with external benchmarks—and makes the right trade-offs to ensure system optimization rather than functional excellence.

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### Sidebar

## **Applying an end-to-end approach to the supply chain**

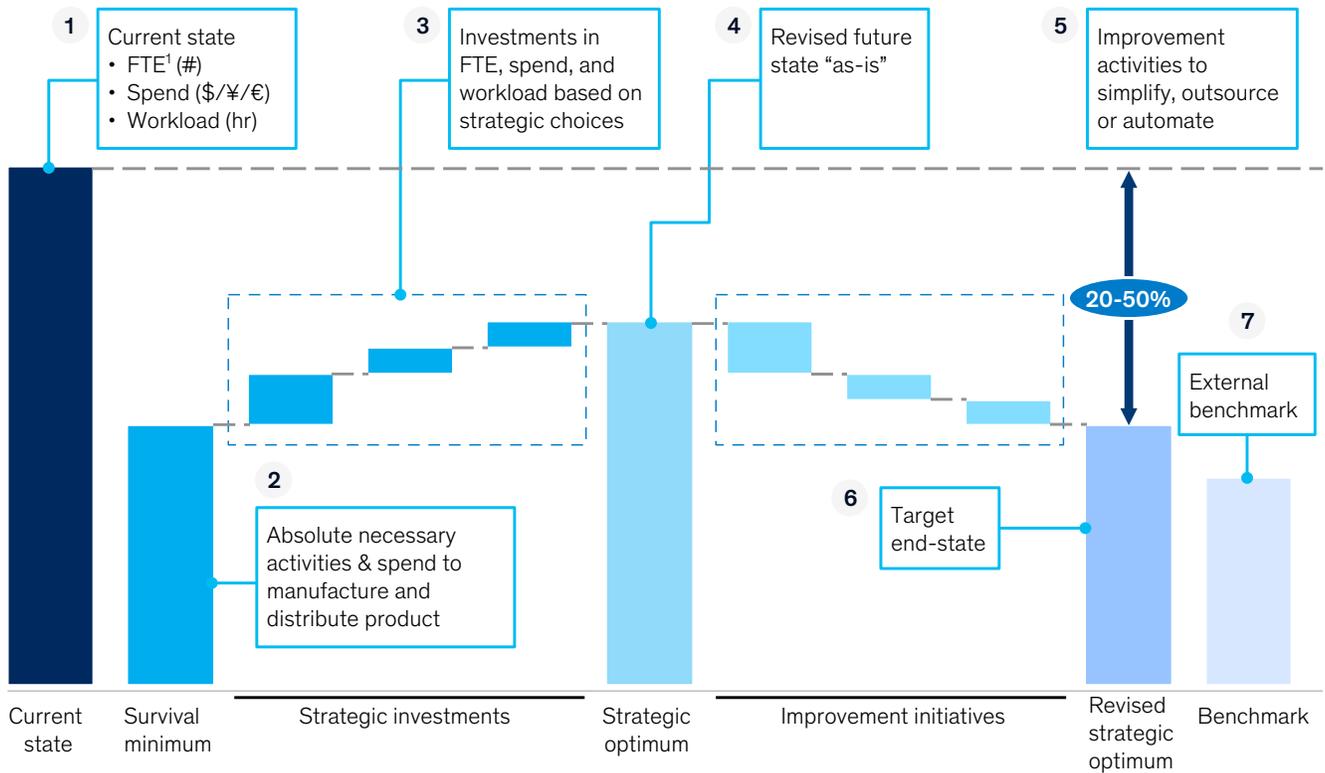
**The integrated nature** of supply chains makes it all but impossible to focus on discrete sections in isolation. Instead, successful productivity improvement requires companies to view their supply chains from a comprehensive vantage point, looking across every area from planning and procurement through to manufacturing and logistics.

In many situations, top-level benchmarks may suggest limited opportunity for improvement, whereas more granular and cross-functional comparisons can identify substantial opportunities even in well-managed supply chains.

For example, food and beverage companies have used this comprehensive approach to identify supply-chain improvement potential of 7 to 15 EBITDA percentage points, of which 30 to 40 percent stem from cross-functional improvement levers that weren’t previously visible.

Exhibit

**The ZBP process identifies strategic investments and improvement initiatives, building the supply-chain function up from a survival minimum.**



<sup>1</sup>Full-time equivalent (employees)

**Applying zero-basing to four crucial categories**

Organizations that seek to extract the maximum value from their supply chains repeat this process across four areas.

**1. Direct labor**

*Key question:* What is really required to fulfill regulatory and customer requirements?

Teams evaluate waste and identify activities that don't generate value by carrying out observations and comparing labor practices to existing benchmarks. Similarly, overall equipment effectiveness (OEE) can be determined by assessing productivity loss and challenging constraints around scheduling and maintenance standards. Labor-utilization standards are assessed to uncover opportunities to elevate throughput to the best demonstrated levels, and free up workforce

not directly required for maintaining production-quality standards.

## 2. Indirect labor

*Key question:* What is the optimal cost of fulfilling customer requirements?

This category includes both production support functions (such as maintenance, cleaning, and engineering) as well as management layers that supervise direct labor. For support functions, expert teams evaluate actual requirements and apply the zero-based approach to rethink decisions such as which activities are done by line operators versus support staff, which work should be done on each shift, and which activities should be performed internally versus outsourced. Regulatory requirements, customer specifications, and general practices are scrutinized to determine what is really needed to address market needs. Customer requirements are also scrutinized; often, a segmentation of customer requirements is necessary to link the cost of fulfilling these requirements to the sales price (for example, through menu pricing). In addition, management structure is optimized across support functions and direct labor to remove unnecessary layers and create a more agile, responsive, and efficient organization.

## 3. Warehouse and logistics

*Key question:* What is the actual clean-sheet cost for internally provided and third-party services?

Costs in this category can vary widely by industry and business model. On the most significant expenditures, internal and external benchmarks can be applied to challenge process areas—for example, inbound logistics versus warehousing versus outbound logistics. Teams can then develop clean sheets that compare the actual costs of activities with what they should cost based on the company's particular business model and strategic operational choices. At one company, clean-sheet analysis revealed opportunities to reduce the cost for rented warehouse space by more than 20 percent.

## 4. Materials

*Key question:* How do we optimize costs while delivering highly valued products?

The team scrutinizes specifications using product teardowns as part of a “design to value” approach that optimizes product and packaging choices based on what customers truly value. Vendors and commercial terms are reviewed to identify opportunities to achieve greater scale or secure material-price concessions with an eye toward maximizing total cost of ownership (rather than just purchase price). The granularity provided by a detailed clean-sheet analysis is invaluable when zero-basing materials. In addition, yields (for example, process waste or product giveaways) are assessed to reduce the gap between the amount of materials purchased and what the company ultimately sells to customers.

### Zero-basing in action

Breaking from the traditional view of costs and performance measurement can weave new insights and opportunities into even high-performing supply chains. At one company, raw-material yields were understating losses by a factor of two to three due to untracked process waste and overfill. For another company, a long-held view that logistics efficiency depended on assigning a single trucking firm to each market turned out to raise costs by 50 percent over a thoughtful “core carrier” model with a handful of additional firms in each market.

At a UK manufacturing company, a zero-based approach to the supply chain dissected all P&L categories to reduce costs by 9 to 15 percent. Results from individual categories included direct labor (15 to 20 percent), engineering and technical (10 to 15 percent) and warehouse and distribution (10 to 15 percent).

As with other zero-based efforts, instilling a mindset and culture of continuous improvement and proactive engagement is critical to the effort's success and sustainability. To sustain momentum,

companies should use zero-based productivity as a vehicle for growth and transparency to support cost savings and reinvestments in strategic areas. Applied properly, zero-based productivity reduces waste in processes while creating a reinvestment opportunity for further improvement, not just for COGS performance but also the overall business.

- Do you set informed targets based on data-driven benchmarks?
- Does your organization take a holistic view on optimization and make the trade-offs required to improve performance of the entire supply chain—or look only within each function?

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To get started, companies can determine whether their supply chain is harboring resources that could be redirected to higher-value areas by asking a few questions:

The answers to these questions can give companies a better understanding of areas that are ripe for improvement as well as strategic areas for reinvestment. A zero-based approach can then help extract the greatest possible cost savings from their supply chain.

- Do you know your costs at a granular level and what is driving them up or down?

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