

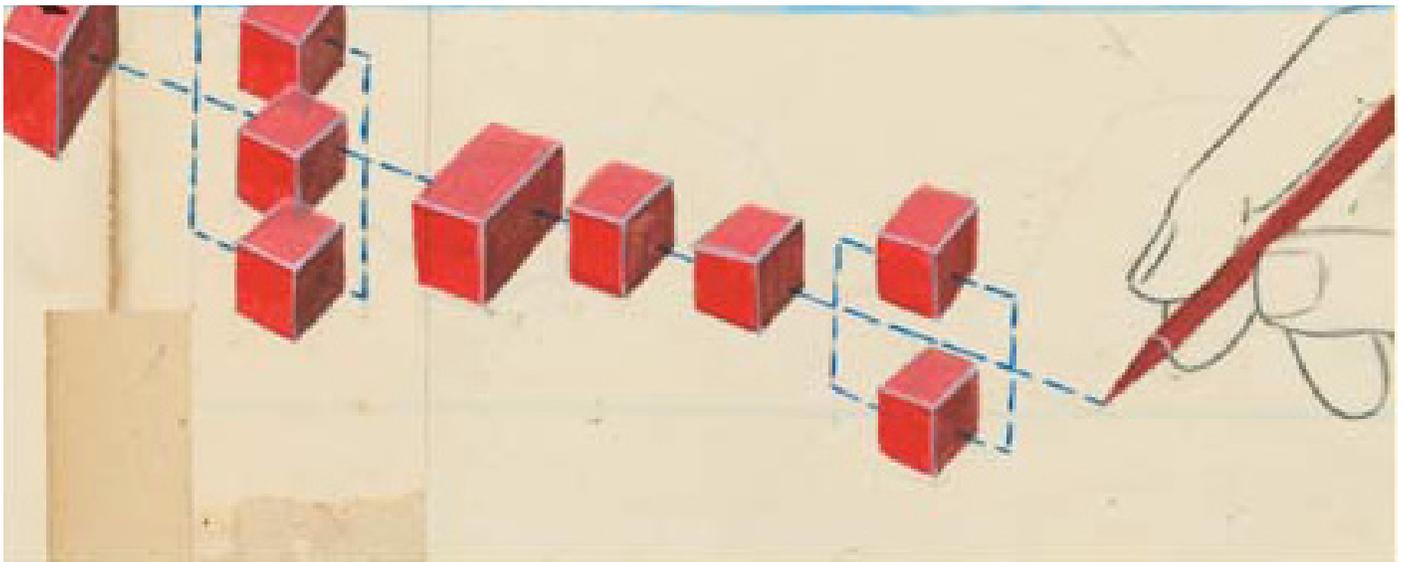
OPERATIONS

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# From lean to lasting: Making operational improvements stick

**By focusing on the “soft” side of lean and Six Sigma initiatives, leading global companies gain substantial, scalable, and sustainable advantages.**

David Fine, Maia A. Hansen, and Stefan Roggenhofer



For companies seeking large-scale operational improvements, all roads lead to Toyota. Each year, thousands of executives tour its facilities to learn how lean production—the operational and organizational innovations the automaker pioneered—might help their own companies. During the past 20 years, lean has become, along with Six Sigma, one of two kinds of prominent performance-improvement programs adopted by global manufacturing and, more recently, service companies. Recently, organizations as diverse as steelmakers, insurance companies, and public-sector agencies have benefited from “leaning” their operations with Toyota’s now-classic approach: eliminating waste, variability, and inflexibility.

Yet in our experience, organizations overlook up to half of the potential savings when they implement or expand operational-improvement programs inspired by lean, Six Sigma, or both.<sup>1</sup> Some companies set their sights too low; others falter by implementing lean and other performance-enhancing tools without recognizing how existing performance-management systems or employee mind-sets might undermine them. Still others underestimate the level of senior-management involvement required; for example, they delegate responsibility for change programs to their lean experts or Six Sigma black belts—practitioners who are technically skilled but often lack the authority, capabilities, or numbers to make change stick.

The broader challenge underlying such problems is integrating the better-known “hard” operational tools and approaches—such as just-in-time production—with the “soft” side, including the development of leaders who can help teams to continuously identify and make efficiency improvements, link and align the boardroom with the shop floor, and build the technical and interpersonal skills that make efficiency benefits real. Mastering lean’s softer side is difficult because it forces all employees to commit themselves to new ways of thinking and working. Toyota remains the exemplar: while many companies can replicate its lean technology, success on the softer side often eludes them.

Some companies, however, overcome the challenges and get more from their operational-improvement programs. Against a backdrop of growing economic uncertainty, their success can be a source of inspiration and enlightenment for industrial and service companies and for public- and social-sector organizations looking to extract greater value from these efforts.

### **Soft is hard**

Making operational change stick is difficult. Operations typically account for the largest number of a company’s employees and the widest variation in skill

levels. Units often are scattered across dozens or even hundreds of sites throughout the world, function independently, and have distinct corporate cultures—particularly if M&A has fueled a company’s growth. Each facility may specialize in different products or services and face unique pressures from customers, competitors, and regulators. These factors complicate efforts to design, execute, and scale operational-improvement programs (see sidebar “A better approach to scaling”).

### **A better approach to scaling**

The task of rolling out a performance transformation program across a company’s global operations—with thousands or even tens of thousands of workers—presents big challenges, which are particularly evident in attempts to scale up successful pilots. Many companies are tempted to undertake everything simultaneously, often by launching a frenzy of loosely related *kaizen*<sup>1</sup> projects across many operating units and by relying on broadly themed, company-wide training programs to instill the new philosophy of continuous improvement.

This approach seldom succeeds: its inherent lack of coordination leads to an uneven pattern of implementation, which often feels confusing or contradictory to workers. Likewise, enthusiasm often wanes when workers, who may receive training months before they apply it, come to view the program as distracting. While this approach almost always introduces useful skills and tools, its disjointed application subtly encourages workers, and even some leaders, to see training rather than business results as the real objective.

When companies tackle implementation in a more coordinated way, they get bigger, more sustainable results. The key is to start with just one or two operating areas and transform their performance completely, in essence creating the building blocks to be replicated throughout the company. This approach focuses management’s attention on the program and thereby helps ensure that its elements, such as technical changes and training, are sequenced properly to avoid confusing employees.

These building blocks, or “minitransformations,” can be much larger than typical *kaizen* projects if the operating areas involved have logical boundaries—for example, a production line in a large plant, everything within the walls of a small plant, or all operations associated with a particular customer. We suggest choosing areas with about 100 to 200 employees, as projects of this size are small enough to manage effectively yet large enough to generate the high levels of enthusiasm and organizational energy that help sustain large-scale change.<sup>2</sup>

A global IT services company took that kind of approach when it first scaled up its pilot effort, choosing to focus on all operational activities associated with serving an important customer. To ramp up the program quickly, while taking care not to jeopardize the results by overextending the company’s people, senior executives used this first expansion of the pilot as a training ground for the leaders of subsequent ones: the line managers and lean-team members who would run the second and third waves (extending the program to cover a second and third customer, respectively) were included in the first wave. This

“pull forward” approach, supported by a project team at the corporate center to ensure consistency, helped the company extend the initiative to more than 100 global customer accounts in just 18 months. In addition to improving customer satisfaction significantly, the company substantially lowered its labor costs and raised labor productivity by more than 40 percent.

Of course, some elements of an improvement program must be instituted at the company-wide level; a single production line, for example, shouldn’t have its own performance-management system. By taking a more coordinated approach to implementation, senior executives can concentrate attention on these and other cross-cutting initiatives (say, a new IT system or compensation scheme, or even special career paths for employees who leave their line positions to assist in company-wide scaling activities over many months). By approaching implementation in this fashion, with cross-cutting initiatives serving as the mortar holding together the building blocks of the program, top companies minimize the chances that poor timing or unanticipated events will return employees to the firefighting mode that characterized the old ways of working.

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#### **Notes**

<sup>1</sup>Continuous improvement.

<sup>2</sup>Organizational (or human) energy is the willingness and ability to adopt new, value-creating forms of behavior. For more about the role of energy in performance transformations, see Josep Isern and Caroline Pung, “Driving radical change,” [mckinseyquarterly.com](http://mckinseyquarterly.com), November 2007.

Consequently, many companies emphasize the technical aspects of their programs over the organizational ones. That approach is understandable. Technical solutions are objective and straightforward; analytical solutions to operational problems abound in lean and Six Sigma tool kits; and companies make significant investments to train experts who know how to apply them. What’s more, the tools and experts actually are invaluable in diagnosing and improving operational performance.

Overlooking the softer side, however, drastically lowers any initiative’s odds of success. Some companies, for example, rush to implement the tool kit without ensuring that their employees—including managers—are prepared to work and lead in new and different ways. In such cases, “initiative fatigue” and even distrust may set in, and efficiency gains fizzle out as the black belts move on to other projects.

At times, such an improvement initiative first appears to be successful but is later found to be insufficient to meet the company’s main objectives. An aerospace manufacturer, for example, wanted to increase production of a product with rapidly growing sales. The company’s lean experts, assigned to plan and run the initiative, quickly identified productivity-enhancement

opportunities and began conducting *kaizen* projects.<sup>2</sup> On the surface, the program was working: the number of projects and employees trained in the new approaches—two indicators the company tracked—were increasing. But management’s inattention to the softer side created difficulties.

Since the program’s goals weren’t adequately defined or communicated by senior managers, the experts focused on what they could achieve—primarily easy wins, including technical changes to redesign assembly processes and to improve the effectiveness of certain machines. In retrospect, these changes, while broadly useful, did little to help meet growing demand for the product. Meanwhile, some of the company’s salespeople, long frustrated with what they saw as the shortcomings of the operations group, began circumventing the production-scheduling system in order to speed their own products through the queue. That undercut many of the efficiency gains the experts managed to create.

The result, in fact, was chaos: line workers later showed executives a schedule indicating that one machine, chosen at random, was to perform 250 hours of work during an 8-hour shift. This revelation spurred the executives to refocus the program, investigate the organizational factors behind the difficulties, and ultimately identify much more far-reaching solutions—starting with an effort to get sales and operations to collaborate in setting production priorities and to work together on a daily basis.

### **Getting started: Set high aspirations**

Such examples show that neglecting the organizational components of an operational transformation can delay or even derail it. Top companies, by contrast, attend to the softer elements of an initiative throughout its whole course, starting with the earliest, aspiration-setting phases, when senior leaders identify the key goals and start to communicate them. That helps companies to establish a stronger foundation for change and to set more achievable, and often much higher, ambitions than they otherwise could. A better understanding of the cultural starting point enables top companies to determine where they should focus at the beginning of a program, when to implement its various elements, and how to achieve their goals.

Consider the experience of a North American power generator that used cultural insights to combat skepticism about the scope of the efficiency improvements attainable in a nascent initiative. This kind of doubt is common when companies lack a self-evident catalyst for change—say, a takeover or a looming bankruptcy. The power generator responded by sending its managers to visit a company, in another process-intensive industry, that had recently

implemented a lean program. There the managers saw similar improvements in action and heard the enthusiasm that line managers and union leaders expressed for them. That experience was instrumental in helping the managers address their own employees' uncertainties about how much improvement was possible.

Likewise, greater attention to corporate culture helped a global chemical company launch an efficiency-improvement program across its network of 300 plants. The company's abiding respect for science and for highly educated experts at first biased managers in favor of solutions based on new technology rather than line-level process improvements. After conducting a pilot project, however, executives saw that about 60 percent of the value it generated came from new work processes, not new and more efficient machines. That realization changed the design of the program and raised its goals—in some cases, by a factor of three. The company now expects the program to have an annual impact of more than \$1 billion.

By contrast, companies that misread employee mind-sets and other cultural elements squander time and resources. A large logistics group that tried to overhaul its transport network, for example, overlooked the way years of inadequate capital investment would affect the program's ramp-up. Why did the company make this mistake? It turned out that the gradual decline in capital spending had, over time, led the company's maintenance workers to assume that their skills weren't valued, so the seriousness of many problems had gone unreported. The company's executives found that the goals of the program were therefore initially unattainable.

### **Making change happen**

After accounting for the way culture and other organizational factors will affect the goals of a program, leading companies put what they learn into action. They reap bigger, more sustainable benefits by balancing the program's hard and soft elements and developing their line managers' lean leadership skills.

#### *Take a balanced approach*

The experience of a North American distribution company that sought to address higher customer expectations and eroding margins in its network of 70 distribution centers shows the virtues of a more balanced approach (Exhibit 1). The company looked beyond technical changes, to the ways that organizational structures and processes—and even the mind-sets of employees—could affect its ability to meet the goals it set (see sidebar “Managers have feelings too”).

## **Managers have feelings too**

When designing change programs, companies shouldn't consider the mind-set only of frontline workers. Managers as well may find change unsettling, as they did at a leading European insurance company that consolidated its back-office operations. From a technical perspective, the changes, though significant, were relatively straightforward: an individual back-office employee, for example, would no longer shepherd a single motor insurance claim through the claims process from end to end but might instead handle only a specialized subset of these activities. Senior executives found that back-office workers were relatively prepared to adopt a mind-set of continuous improvement because they already had a strong sense of ownership and responsibility for customers. The new way of working, while posing significant problems of adjustment, didn't fundamentally change the way these employees felt about their jobs.

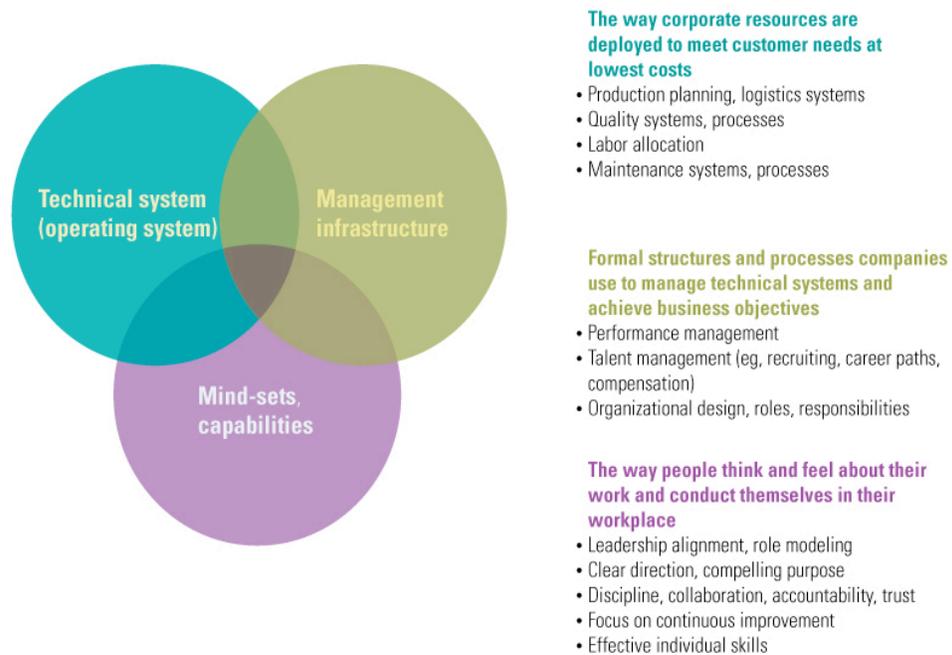
The company's back-office managers, however, found the program disquieting. Previously, they had considered themselves akin to general managers, with high standing in the organization. Now many of them, complaining that they felt "industrialized," resisted the program. Senior executives recognized that its success would require these managers to adopt their new roles as coaches and mentors for junior employees wholeheartedly, so they could bolster the skills of their direct reports and encourage them to find ways of improving constantly.

Senior executives launched an initiative to redefine the attributes and requirements for back-office managers so that they could succeed in this new environment and discussed the initiative with them to explain that they would play an important role in the success of the program—and of the company. Meanwhile, the company's lean team worked with the managers to show them how to use root cause problem-solving techniques, so that they would gain confidence by tackling real, content-related problems in a way they could use with their direct reports. Moreover, the experts coached individual managers to help them learn, understand, and gradually feel comfortable with the new way of working.

After some initial resistance, the company found that this approach helped change the managers' attitudes. As morale improved, so did results. Within six months, many back-office departments were meeting stringent productivity targets (a 20 to 30 percent improvement, in certain cases) and some were even surpassing them. Managers attributed these results to the support they received, as well as to the new spirit of competition the program engendered (for example, by making the performance of individual departments transparent).

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**A balanced approach**

Operations leaders identified labor balancing as an important technical improvement: they planned to create teams that would combine two roles—“pickers,” who located products to fill customer orders, and “packers,” who loaded orders onto trucks. The new system was supposed to increase productivity by redistributing labor more efficiently to meet shifting demand. The company didn’t stop at such technical fixes, however. In parallel, it revamped its performance-management system to encourage the new ways of working. Pickers had been measured quantitatively (primarily on speed, not accuracy), packers qualitatively or not at all, depending on the site. Executives now combined the existing metrics into a team-based system aimed at helping the company’s trucks depart on time. This change not only balanced speed and accuracy but also pushed workers to collaborate and to focus on a common goal. In addition, the company created a prominent visual tracking system to reinforce the new behavior by showing employees, in real time, when shifting workloads required their immediate attention.

Changing the mind-sets of workers proved critical as well. Many workers in both groups, which had viewed each other as rivals, were company veterans who strongly identified with their roles. Pickers had traditionally felt superior, since they typically worked alone and could be quite successful with individualized approaches, whereas packing was more standardized.

Recognizing that such factors would breed resentment if ignored, the company provided supervisors with on-the-job training in interpersonal skills—including coaching and the art of having difficult conversations—in the weeks before making the technical changes. The supervisors later reported that the integration and timing of these elements helped the program succeed by instilling in them the influencing skills needed to highlight the new system’s benefits (both to their teams and to individual workers) and to convince doubters that the changes were important. (Often, companies undermine their performance-improvement programs by introducing otherwise useful training elements at inappropriate times—for instance, several months before the implementation of the program, when its goals may not be clear to the trainees.)

Within six months, the distribution centers that had adopted the new system were 10 to 15 percent more productive, on-time deliveries were up 5 to 10 percent, and errors reported by customers were down by as much as one-third. Moreover, a survey of workers found that their satisfaction levels had risen by 10 percent. Subsequent analysis suggested that about half of the productivity gains were attributable to the softer elements and about half to technical changes, such as more efficient warehouse layouts.

#### Lead through the line

At the heart of most big operational-improvement efforts are a company’s black belts, lean sensei, and other change agents brought in to lead programs, spur new ideas and practices, and champion the mind-set of continuous improvement. Companies typically follow this template because it appears easier than significantly involving their line leadership. Shop floor deadlines are fierce, line leaders are busy, and many of them lack the skills to direct large initiatives. Some executives therefore argue that line managers should focus instead on day-to-day concerns.

Yet that is a mistake. Large-scale change requires all employees—from the C-suite to the shop floor—to think and work differently (Exhibit 2). Companies that use only experts to orchestrate change programs may be fairly successful. Still, by outsourcing the responsibility for initiatives (and, by extension, the underlying ideas) to experts, even their own, these companies often miss significant opportunities. Moreover, once the low-hanging fruit is gone, such efforts often lose steam as employees slip into old habits; experts may convey the new language or technical tools but rarely the desire to change behavior permanently, nor can these experts build the organizational capabilities that permanent change requires.

**Six habits of lean leaders**

Employees can't change if their managers don't. Lean leaders act as role models for the mind-sets and behavior they wish to instill in their teams.

Habit	Example
<b>1. A focus on operating processes:</b> Senior managers use visible activities to demonstrate the importance of process and of making standardization a habit.	<i>The COO conducts regular shop floor visits and Q&amp;As to review milling-machine operating processes and reinforce standards with workers.</i>
<b>2. Root cause problem solving:</b> Managers fight the instinct to provide immediate solutions to problems, instead using them as teaching opportunities.	<i>Responding to an unanticipated problem, a brewery plant manager first ensures that proper containment measures are taken, and then challenges the team to analyze causes—using the “five why” method (examination of a problem to uncover the underlying cause).</i>
<b>3. Clear performance expectations:</b> Transparent performance dialogues take place at all levels of management.	<i>An insurance company's frontline employees meet for 10 minutes daily with their team leaders to track productivity and discuss improvement ideas. Productivity metrics are tracked visually and displayed prominently.</i>
<b>4. Aligned leadership:</b> Process improvements don't stop at functional boundaries.	<i>To create more open and collaborative environment, the COO ties half of the functional leaders' year-end bonuses to the key performance indicators (KPIs) of the entire management team.</i>
<b>5. A sense of purpose:</b> Connections between day-to-day work and compelling, long-term aspirations become tangible throughout the company.	<i>To make goals tangible in its quality-improvement program, a medical-products maker brings in health experts to show frontline workers how products are used in surgery—thus emphasizing the importance of meeting quality objectives.</i>
<b>6. Support for people:</b> Managers recognize and demonstrate that frontline workers are a source of customer value. These workers are empowered and encouraged to make important decisions.	<i>An area sales manager drives to the head office to pick up a replacement printer that frontline agents need to continue working efficiently.</i>

By contrast, when a company shifts the attention of its line managers away from firefighting, develops their leadership capabilities, and expects more from them, the gains are bigger and longer lasting. Experts still play a vital catalyzing role, of course, but now as teachers, coaches, and counselors. Line managers are better placed to lead change efforts and to serve as long-term role models—and should be held accountable for doing so.

The North American power generator mentioned previously learned this lesson several months into its improvement initiative as executives sought to fire up the program's momentum. This company had sent its operations experts into field offices, so they could work closely with employees at individual plants, where they had enjoyed significant success. Senior executives, however, observed that enthusiasm and engagement soon started fading among the line workers. In the words of one executive, “They were still coming to work from the neck down.”

Senior executives therefore vowed to move the effort “out of the office and into the line.” The company created a “lean leader” profile—a list of desirable characteristics, such as problem-solving, coaching, and analytical skills. Management then created a curriculum to build them through the “forum and field” approach: hands-on training and coaching forums (on topics such as performance management, time management, and problem solving) followed by practice in real-world applications.

To ensure that everyone understood the permanence of the changes, the company made weekly one-on-one training and coaching sessions a part of its line managers’ jobs. Shift schedules were adjusted to incorporate coaching into the workers’ routines. (While most executives recognize the value of coaching, many fail to institutionalize it, thus unintentionally making it seem less important.) These brief sessions allowed workers to celebrate successes, share ideas, and measure progress in achieving the program’s goals. Soon, employees began carrying index cards listing the improvement priorities they had spotted during the previous week.

The cards and related conversations generated creative ideas—including a new way to keep coal dry when it was shipped to the company’s power plants. These and other line-led improvements helped significantly to raise the plant’s output and, subsequently, to cut its fuel costs. More important, the training efforts enhanced the skills of managers, enabling them to become the foundation for a host of additional improvements.

To get the most from large operational-improvement programs, top companies look beyond the technical aspects of lean and Six Sigma and embrace the softer side. Complementing the development of technical skills with a focus on the organizational capabilities that make efficiency benefits real can help companies to achieve more substantial, sustainable, and scalable results. 

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#### Notes

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<sup>1</sup>While lean and Six Sigma are distinct methodologies, many companies combine elements of the two. In this article, we outline best practices that are equally fruitful in lean, Six Sigma, and related hybrid environments rather than advocate one approach over the other.

<sup>2</sup>Rapid, concentrated projects aimed at making continuous, incremental, small-scale process improvements at the line level.

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