Opportunities for Action in Industrial Goods

Why Quality Programs Fail—and What to Do About It

THE BOSTON CONSULTING GROUP

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"We are putting so much effort into quality, educating hundreds of Six Sigma black belts, but still our quality performance is not satisfactory. What are the successful players doing that we're not?" We at The Boston Consulting Group have been asked similar questions many times. Clearly, the pursuit of quality raises technical, organizational, and strategic challenges that the available quality-training curricula just don't address. Why is it so hard to "bake" quality, as a paramount value, into a company's DNA?

The answer, in part, is that the issues that undermine quality typically lie not at the technical level but far deeper, at the level of strategy and organization. In our experience, most companies need to tackle three major challenges: ensuring that quality follows strategy, managing people to inspire quality-creating behaviors, and addressing the matrix issue.

Ensuring That Quality Follows Strategy

Quality is not strategy, but far too often companies confuse the two. The value that successful quality programs create—in cutting costs, reducing complexity, and winning and retaining customers—is now so widely recognized that companies treat quality as an end in itself. In doing so, they neglect to establish systematic ways to make strategic tradeoffs between, for instance, quality and cost or quality and innovation.

These tradeoffs are inevitable and vitally important. To make them appropriately, you need a sound strat-

egy that sets forth clear priorities and answers such questions as, How do we want to be positioned relative to our competitors? What level of quality should we offer our various customer segments? What balance should we strike between reliable, proven technology and new, innovative technology? What is the right balance between investing in quality to prevent problems and paying to correct them later on?

Managing People to Inspire Quality-Creating Behaviors

Not everything can be prescribed. Ensuring quality means more than insisting on disciplined adherence to carefully designed processes. There is always a gap between work prescriptions—the structures, roles, procedures, instructions, process descriptions, and metrics set forth in quality assurance manuals—and real work situations, which are inherently variable.

This gap can be traversed successfully only by the individual who experiences it. That person must interpret the written rules for the particular case, anticipate issues beyond the rules, and cooperate with others to resolve those issues.

Interpreting the Rules. Just applying the letter of the quality rules is not enough. (In fact, "working to the rules" is what workers in some professions do in order to stage a slowdown.) Employees must also understand the spirit of the rules and work out their implications. For example, in supplier expediting—which involves assessing a supplier's capability to deliver on spec and on schedule—the expediter must continually make judgments about how deeply to examine the supplier's operations and how often. If the expediter digs too deep too often, the process will cost too

much and take too long; if he or she fails to dig deep enough or often enough, critical quality problems can occur.

Anticipating Issues Beyond the Rules. Taking the initiative to go beyond the rules cannot, by definition, be decreed. But failing to take that initiative can be costly. For example, an engineer in charge of a power-plant construction project needed to make sure that the plant's main gate would be large enough to allow a 300-ton turbine to pass through. So he asked the engineer of the turbine for the machine's dimensions. The second engineer promptly sent the dimensions. Both engineers behaved exactly as the quality process description told them to, but neither considered the fact that such a large turbine would require a massive carrier to convey it into the plant. In the end, the power-plant company had to demolish a wall so that the turbine could make it through. The plant engineer had not thought to clarify precisely what dimensions he needed, and the turbine engineer had not thought to ask why his colleague needed the information. So nobody filled in the blanks in the process description.

Cooperating. Cooperating means taking other people's situations and objectives into account when making a decision—an act that sometimes requires compromises. For example, the efficiency of an auto manufacturer's stamping activity is directly related to the flatness of the parts to be stamped. So manufacturers break down large three-dimensional parts into smaller, flatter subparts for stamping. However, the efficiency of the assembly activity (which receives those stamped parts) is inversely related to the number of welding operations it performs; therefore, efficient assembly calls for fewer, larger parts. Unless there is cooperation between the engineering unit in charge

of stamping and that in charge of assembly, the inherently opposing interests of the two activities generate modifications, extra costs, and even defects (when necessary modifications are not made). Yet if one unit takes the needs of the other into account, its own work becomes more difficult, and the benefits of the extra effort accrue only to the other unit.

Whenever people truly cooperate, the effects are partly or wholly manifest only in other people's work results. So it becomes impossible to disentangle whose contribution made how much difference to the overall outcome. In cases where it is possible to measure each individual contribution fully, it is because there has been no real cooperation, just an accumulation of inputs from separate silos. Relying on measurements alone to foster teamwork only deters cooperation or causes unhappiness, because individuals' unmeasurable efforts go unrecognized.

Indeed, the main obstacle to eliciting quality-creating behaviors is the failure to recognize them adequately. Recognition is critical because of the emotional strains involved in the real, value-adding work of interpretation, anticipation, and cooperation. Such work triggers doubts (am I taking the right initiative?), anxiety (will it work?), and fear (what happens if it doesn't work?).

So the value-adding task of filling the gap between work prescriptions and actual situations creates stress. Without recognition, stress becomes distress, and people stop investing the intelligence and energy that make the whole difference in quality. Only recognition can make doubt, anxiety, and fear meaningful—"My pain was not in vain"—and help reorient stress toward the positive building of one's working identity.

Addressing the Matrix Issue

In industrial goods companies, the person responsible for the quality of a particular product or program is usually the project manager, whose "horizontal" responsibility cuts across all line departments. These line departments embody the "vertical" dimension of the matrix: such functions as marketing, design, engineering, manufacturing, sales, and sourcing. The project manager must have not only the formal mandate but also the power to coordinate the input of all the specialized line units, to make teams cooperate across lines, and to focus them on deliverables, timing, and customers. Many organizations fail to give project managers this essential power. As a result, projects suffer serious delays and often incur substantial financial penalties.

However, as more and more organizations recognize this matrix problem, they are increasingly giving project managers the power they need to ensure quality. This can mean, for instance, the power to assess or coevaluate team members and to have some say in rewards and promotions. It can even mean having formal authority over engineers for the duration of a project.

But empowering project managers is not the whole solution. In fact, new quality problems can arise whenever project managers' power comes at the expense of line managers'. Traditionally, line managers have full control over engineers' assessments and rewards. If project managers are given some of that power, line managers can achieve only a fraction of what they used to in mobilizing engineers toward line objectives. But line objectives also directly affect quality. They include, for example, advancing methodologies, capitalizing on experience, deploying

new standards throughout projects, and cutting costs (for instance, by developing new, low-cost suppliers, which project managers would not independently seek, because new suppliers create additional uncertainty for their projects). As long as increasing power along one dimension decreases it along the other, the organization is stuck in a zero-sum game.

What is the solution? Increasing the total quantity of power available in the organization and thereby creating a positive-sum game. The issue is not equality—sometimes described as "balancing the matrix"—but making sure that each function has enough power to achieve its objectives.

Power is the ability of one actor to influence issues that matter to others (the "stakes") so that other actors will do something in response that they would not otherwise have done. Stakes often relate to promotion, rewards, working conditions, or access to resources. To increase the total quantity of power available, the organization must inject at least one new stake that matters to individuals and to the company. Those who can influence that stake will gain power without stripping it from others. The result is a positive-sum game.

In one company, the added stake was competence development, which became a condition for promotion to new roles, such as that of "expert." Formerly, the only possible career advancement for engineers was promotion to manager, which was based mainly on the individual's contributions to projects. Line managers became responsible for assessing engineers on a variety of competence criteria, with high scores leading to engineers' promotion to the expert position. So line managers gained new power, while project managers retained the power to reward teams on their project-based performance.

Other stakes that can be used to create new power bases in line with quality requirements include customer knowledge, standards deployment, and commonalities in platforms and components. For instance, a company might choose to have a functional line—such as marketing, engineering, or procurement—assess employees' understanding of customers, respect for standards, or use of common components. It can then set valuable new prospects for employees, such as new career paths or geographic mobility, to be earned on the basis of performance against both old and new criteria. By introducing concrete new stakes of this kind, companies increase the total amount of power available and stimulate participation by all parties in satisfying new performance requirements.

Making It Happen

For most companies, addressing the three challenges described above requires a systematic change process consisting of several phases, which usually takes two to four years. Pilot programs should show tangible business benefits quite early to generate enthusiasm and prevent frustration. Management must be sure that every employee clearly sees the answer to the critical question, "What's in it for me?" Effective communication is essential and should take two forms: communication to the staff to convey the vision, set expectations, share success stories, and spur enthusiasm; and active listening to identify where there is a need for action—for example, through regular employee "pulse checks."

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The root causes of quality problems run deep. Their solution calls for ensuring that quality follows strategy, changing managerial practices to inspire and recog-

nize individual efforts that cannot be prescribed, and making the matrix work effectively by increasing the total quantity of power within the organization.

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