

The evolution of quality: Higher quality output, lower cost of quality

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Good quality doesn't have to mean higher costs — in fact, it often means lower recall and warranty costs as a culture of quality takes hold.

Disaster has a way of concentrating the mind. Massive recalls and lawsuits — over beverages, dairy products, detergents, beauty products, and others — become almost totemic reminders of what a lapse in quality can mean. And for consumer companies everywhere, simultaneous increases in supply-chain complexity and media reach mean that the aftershock of a quality lapse is likely to be much larger than in the past.

But despite their impact, these events are only part of the story. Indeed, as important as it is to keep rare disasters from happening, focusing too closely on them can distort an organization's understanding of what quality really means. Fundamentally, quality is about meeting or exceeding customer expectations: every day, every shipment, in each product, year after year. That's where the true value is, measured not only in higher revenues from greater customer satisfaction but also in higher operational efficiency and effectiveness due to increases in productivity and innovation — and even employee engagement.

Yet organizations face constraints. Rising margin pressures, particularly in consumer-oriented industries such as fast-moving consumer goods, limit how much companies can spend on quality practices. Organizations therefore cannot just be good at quality — they need to be smart about it as well.

To achieve the right balance, organizations must learn to think about quality systematically. At the very earliest stage of quality awareness, organizations start to hear the voice of the customer more clearly while stabilizing their operating systems

and promoting greater transparency about quality problems (see sidebar, “More than compliance”). As these practices take hold, the next stage of maturity centers on strengthening cross-functional accountability and collaboration for quality—such as with new performance standards so that quality standards inform the design of products and the management of supply contracts.

At the third stage, quality informs much of the organization’s decision making, embedding itself so deeply that it becomes a part of the culture and essential to the company’s value proposition. Finally, among a small group of the very highest performers, quality becomes the basis for their reputation. These exceptional organizations expand their perspective on quality to address customer problems in ways that push their businesses into new areas, building on behavioral research and process analytics to develop deeper solutions and customer relationships.

Achieving these outcomes requires investment. But the good news is that the organizations whose quality practices are the most sophisticated are not necessarily the ones that spend the most on quality. Instead, these leaders prioritize so that what they spend on quality is highly effective. At each stage of maturity, the advantages build: from essentially nonexistent to basic, from basic to average, from average to advanced, and from advanced to industry leading.

For example, a major dairy manufacturer at a basic stage reduced its “cost of nonquality”—such as for warranty claims, yield losses, and rework—by about 35 percent. A mid-level food producer’s facility reduced process deviations by more than 30 percent, while at the same time reducing the time to market by 30 percent. On average, the top personal-care and food plants produce dramatically better quality results on factors such as yield and consumer complaints, both of which have significant cost implications (Exhibit 1). At every stage, therefore, companies across industries are achieving higher quality at competitive cost, building capabilities that prepare them for further stages of quality evolution.

Four evolution stages of quality ‘maturity’

In assessing an organization’s quality practices, we focus on three foundational elements of quality.

The first is the operating system—the manufacturing processes for a dairy or the logistics operations for a distributor—gauging how well it can contribute to quality. Second is the quality system itself, including enterprise-level capabilities such as measuring quality output, or incorporating quality standards into the design of

Exhibit 1

Best-of-best personal care and food plants produce higher yields, fewer complaints.

1 Number of cases for food plants is limited. Number includes both complaints from end-consumer and retail customer.
SOURCE: COBI

products and processes. The third element is the cultural dimension of quality—the way employees think about their contribution to product quality, and how they behave to ensure good quality.

How an organization performs in these three areas determines its stage of maturity (Exhibit 2). Although the boundaries between the different stages are not precise, each nevertheless correlates with a few important characteristics.

From the experiences of organizations that are investing in quality, a few broad lessons stand out. Most important, investments can pay off at every possible starting point, from stage zero, when a company has very few quality capabilities, to stage four, when it is among the standard-setting organizations that are redefining what quality can mean.

A further, related lesson is that the impact from investing in quality tends to increase with the organization's quality maturity. That's partly because of scale: as maturity increases, quality involves more and more of the organization. And it's also because quality increasingly informs strategy so that its effects are broader and longer lasting.

More than compliance

Especially in highly regulated industries such as packaged foods or pharmaceuticals, organizations often see quality mainly in compliance terms. There's good reason: as products become more complex, compliance and quality start to overlap, with some standards explicitly incorporating minimum quality targets.

Yet even the most intricate of standards may not incorporate all of the factors that customers include in deciding whether a product is fit for purpose. Instead, regulators have traditionally focused on the most critical variables, usually centering on safety—such as the presence of allergens and other potentially hazardous ingredients in foods.

And although at least some regulators are broadening their perspective on quality—for example, assessing new drugs based on holistic health or life-span effects rather than just control of symptoms—companies nevertheless have substantial room to expand their understanding of quality to encompass the standards that customers want met and improve on them. That's what organizations build as they move through the stages of quality maturity.

The final lesson, however, is that progress from stage to stage is neither smooth nor automatic—nor even necessary, depending on an organization's circumstances. Instead, progress comes from triggers that share certain features, even though the details are inevitably specific to the organization.

Building the basics of customer focus, transparency, and stability

The first trigger typically occurs when the organization recognizes that simply reacting to quality problems is no longer tenable. Often, a recall (or even just adverse news coverage) simply costs too much for a company to absorb—in administrative resources, warranty expenses, and lost reputation. And it's a lesson that applies equally to a start-up that has focused mainly on growth, a state-owned enterprise protected from market demands, and a company in a high-demand industry.

That was the case for a regional dairy player in a market where incumbent private labels started aggressive price reductions. The company's leadership team recognized that quality would be the competitive advantage that would help it

Exhibit 2

‘Triggers’ make companies advance to new stages of quality maturity.

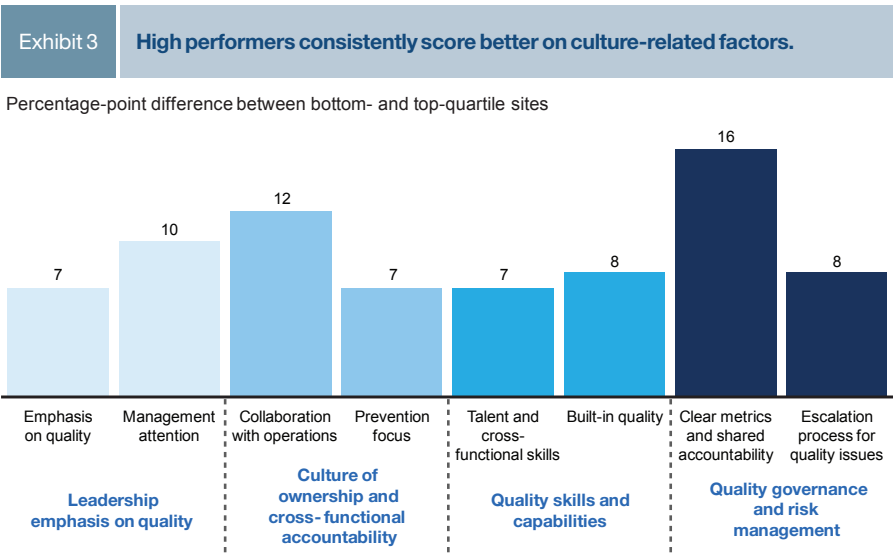
Maturity stage	Operating system	Quality system	Culture
0. Starting	Inconsistent manufacturing performance	Reactive, minimal compliance	Limited attention to quality
	Typical evolution trigger: opportunity to reduce quality costs (eg, financial, reputational), compliance requirements		
1. Basic	Progress toward repeatable, standardized manufacturing	Development of individual quality processes Establishing basic compliance standards Launch of separate quality function	Increased transparency about product quality Focus on improving compliance
	Trigger: opportunity for quality to generate positive value and reduce quality risk exposures and failure costs		
2. Stronger	Robust manufacturing, some identification of improvement opportunities	Quality systems established in all functions Greater cross-functional accountability Active problem solving for quality	Quality as customer value Focus on reducing cost of quality
	Trigger: opportunity for quality to rise from “table stakes” to substantial part of value proposition		
3. Embedded	Continuous improvement cycle for manufacturing	Quality and customer satisfaction drive product design and solutions, strategic decisions	Quality is the way the company works Focus on anticipating customer needs and continuous improvement
	Trigger: opportunity to redefine what quality means		
4. Standard-setting	Adoption of advanced manufacturing and control technologies, and advanced analytics to inform new product and process design	Quality draws on unique capabilities and innovation, becomes a source of insight and an enabler of breakthrough products	Quality is one of the most valuable company attributes, focus is on developing solutions beyond the company’s traditional boundaries

navigate the industry’s downturn. But that meant changing peoples’ mind-sets to help them see that the poor results were a product of a weak quality culture.

Today the company has built quality into its entire organization, starting with shop-floor huddle meetings that begin with a discussion of what the team did the day before to improve quality. In their regular cycle of in-person site reviews (or “gemba walks”), managers and leaders always mention quality, even when it is not the main focus of the day’s review. Together, changes such as these transformed the operation, increasing sales by 5 percent and earnings before interest, taxes, depreciation, and amortization by 2 percent.

Strengthening the culture for tighter collaboration

Once an organization’s quality becomes more transparent and stable, new opportunities often arise to increase quality’s value and decrease its cost. Our latest research confirms that higher-performing manufacturing sites score better on culture-related factors than their peers (Exhibit 3). Accordingly, at this stage, the goal becomes to enable greater collaboration across the entire organization so that quality becomes embedded in the culture. That collaboration extends outside the organization as well, to include stakeholders, such as partners and regulators.



Source: McKinsey analysis

Two pharmaceutical manufacturers illustrate how this stage evolves. One, a generics maker, was facing compliance issues and needed to establish better quality operations on the factory shop floor. The other, one of the world's largest branded pharmaceuticals manufacturers, reexamined its already robust compliance practices for ways to improve its quality outcomes and risk profile even further — while reducing costs.

To reinforce the cross-functional nature of quality, both companies expanded their use of broad performance measures, such as error-free or right-the-first-time (RFT) production and on-time, in-full delivery. In team huddles throughout their production sites, the companies focused on daily tracking and discussion of the new indicators. In addition, tying these shared metrics to annual bonuses increased everyone's attention to quality — not just within their particular functional or operational units but also across organizational boundaries.

As these new practices took hold, productivity at the generic manufacturer's sites increased by more than 15 percent, while its end-to-end RFT percentage rose to more than 92 percent, from 83 percent. Individual sites started passing regulatory inspections more confidently and without any noted compliance issues or regulatory observations. For the branded pharma, the changes reduced both the number of quality incidents and its cost of poor quality, improving its risk profile with no added investment in IT, capital, or other resources.

Turning quality into the core value proposition

The third transition deepens the quality culture until it becomes the company's core value proposition. In effect, quality is no longer mainly a question of bottom-line savings but of top-line revenue generation. Tactically, this stage requires renewed investment in human and digital capabilities so that the company can consolidate all available customer data — from every internal touchpoint, and from external sources as well — to identify new openings.

A global logistics company's transformation of its quality approach illustrates the level of commitment required. Previously, the company's focus had been on fast delivery, a goal it had largely achieved. But customers increasingly looked to other factors, such as accuracy in predicted delivery times — speed was not necessarily helpful if a delivery arrived before the customer was ready to receive it. Moreover, the rise of a digital economy meant that deliveries were becoming far more complex: fewer large deliveries to warehouses and retail stores, and more very small deliveries to a vast number of residential addresses.

The new world demanded not just high quality but also quality leadership. The entire organization, from the executive suite to the uniformed drivers, immersed itself in capability-building sessions to understand the competitive reasons for higher quality and the implications for day-to-day work. Deeper problem-solving methodologies allowed people to identify new ways to serve customers. And new technologies crunched route data to enable wholesale restructuring of delivery practices that minimized the chance of error. The result was a major increase in customer satisfaction and renewed growth.

Setting a new standard with the latest analytics and technologies

The final stage applies the wider range of measurement and analytic technologies to develop solutions that push well beyond the organization's traditional business in predicting emergent customer needs—sometimes before the customers themselves are aware of them. One early example comes from sterile food filling, using techniques such as the ultrahigh-temperature pasteurization that has become familiar in shelf-stable dairy products. Historically, the sector's business model relied mainly on unit sales, but quality is an increasing focus as processors improve their remote monitoring of sterile machinery and use advance analytics to maximize output at the client's desired quality level.

At the level of individual manufacturing sites, advanced analytics are increasing output and yield: a dairy company has almost eradicated a chronic overfilling problem by refining the parameters that affect its filling process. Likewise, sophisticated modeling of energy inputs and demands can reduce energy usage by 5 percent or more. An appliance manufacturer used a cloud database to store several sources of information (for example, repair-technician notes, warranty-claims data, call-center records, product information, and manufacturing data), for which predictive analysis gave it early warnings of issues and allowed it to improve its design processes for both future and current products. And in less than two years, a biopharma site more than doubled its yield and RFT levels—with minimum additional process investments—by deploying advanced analytics to better understand important process variables and improve process specifications.



Not every organization needs to achieve the highest level of quality maturity—and certainly not all in one go. But all organizations should recognize that when a trigger looms, an investment in quality capabilities can often open major new opportunities for competitive advantage.

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