

Managing Quality: a discussion with David Garvin by Joe Flower

Introduction

In the early 1980s, when everyone was talking about Japanese management, "quality circles," and "Theory Z," David Garvin of Harvard Business School did something truly interesting. He felt that, "If quality is to be managed, it must first be understood." So he studied one industry which was active in both the United States and Japan -- the room air conditioning industry -- analyzing the products to determine which plants in which country were turning out the highest quality. Then he analyzed every step of the manufacturing process, to find the differences that made the difference. He administered hundreds of questionnaires, toured plants, and questioned everyone from line supervisors to CEOs. His findings were often surprising. Some things that everyone thought guaranteed higher quality (such as exhaustive testing) did not, while some things rarely mentioned in the literature (such as the way the factory dealt with layoffs and seniority, and the length of production runs) made a big difference.

This detailed examination of a single industry provided a wealth of insights that apply to quality management in other industries. He explores his findings, and what they mean for other industries, in his book, *Managing Quality: The Strategic and Competitive Edge*.

In a wide-ranging conversation, I asked Dr. Garvin to tell us how his findings can make a difference in the health care industry. He started by mapping out a somewhat different, and more detailed, view of what exactly quality is.

The Eight Dimensions of Quality

Most companies talk a good deal about quality. But they often misinterpret what their customers need. In fact, when customers are talking about quality, they are talking about something very precise.

I separate quality into eight dimensions: performance, features, reliability, conformance, durability, serviceability, aesthetics, and perceived quality. Customers very seldom talk about all eight dimensions. Usually they are talking about one or two which are the most salient to them. When customers say, "I want higher quality health care," they may be talking about performance. If it's an operation, that means: is it performed effectively so that the problem is corrected, the patient is up and out quickly, and there is no infection or complication. They may be talking about features, which are add-ons, bells and whistles -- how they're treated by the staff, or whether there is a television with multiple channels in the room that they don't have to pay for. They may be talking about reliability -- the frequency with which the service actually works. Or conformance -- getting exactly what they expect to get, at the price they expect to pay.

So the manager who is trying to improve quality has to develop the ability to listen with more precision.

When Japanese cars first entered the market their performance wasn't very hot. They didn't go very quickly, they weren't especially luxurious or comfortable, there weren't a lot of features. They scored the bottom of the list for durability, and for safety. But if you asked auto customers what they thought was the most-desired quality characteristic in a car, the answer was reliability. That's the quality niche the Japanese targeted. It started every time. And it only broke down once every five years. That's what customers were saying when they told GM, Ford and Chrysler, "Your cars aren't high quality." GM would say, "But look at all the features we give you in a Cadillac." But that didn't meet what the customers were really saying, which was, "Your cars break down too much."

Quality as a Strategic Tool

You can target your quality strategy. You don't have to be first in all eight dimensions of quality. If you try to, you end up being Rolls Royce. Instead, you can discover the dimensions of quality that your customers want, or the ones that are not being well served by competitors. This is called "quality niche strategy." It's not just a choice between the cost niche and the quality niche. There are a variety of quality niches.

There are hospitals that are luxuriously appointed, that have more nurses than are medically necessary. That's a feature strategy. Others go for a strategy which says we will be very explicit up front about what you are going to get, a conformance strategy.

Others have a "perceived quality" strategy. That is, when they introduce a new service they fall back on their legitimate reputation in other areas. So let's assume that Mass General, which has historically been renowned for its heart care, opens an entirely new pulmonary wing. People may have no basis for judging objectively how good the pulmonary care is. They do know that the heart care is world class. The assumption is going to be that these folks are likely to do a good job in pulmonary as well.

Once you have done the work to make your quality what it needs to be, you can use quality to position yourself strategically, exactly as Ford did. For years they told people that "Quality is job one." They made it a potent marketing weapon. Similarly, Maytag's marketing ("The lonely repairman") works because it's true. Neither of these market positions would have worked if they were not true.

Four Steps

There are four things you need to do to position yourself strategically on quality.

Step one

First, you define quality from the customers' point of view. This requires market research in which you talk directly with your customers, whether that is your doctors, your patients, or your payors. You first try to pinpoint what they mean when they talk about quality. Then you try to get some sense of relative importance. If you let them, people will tell you that everything is important. One way to get this sense in a focus group is to use a forced hundred-point scale. You make a list of things people say they care about. Then you say, "Okay, now you have a hundred points. Divide those hundred points across the categories you just gave us in terms of what's most important to you." That forces people to make tradeoffs. In most cases one or two of the dimensions of quality will be far more important to patients than the others.

At the same time, you should administer the same survey, with the same 100 point scale, internally. You often find, not only is there one mismatch, there are two mismatches. The first is between the staff and the customers. The other is between different groups within the organization -- administrative staff vs. medical staff, or doctors vs. nurses.

I have done this in manufacturing organizations. You ask R&D, manufacturing, sales, and marketing, and you get completely different weights. But they can't all be right. They have to figure out what the customer really wants.

I'm not suggesting that the customer's always right, especially in health care. But I am suggesting that we often misinterpret what the customer is telling us. You can do that sort of research. You can find answers to those questions. Even basic research on what's important to the customer often has not been done. We are operating on supposition and self-delusion.

For instance, I worked a number of years ago with one of the major phone companies. I asked to see their quality surveys. They showed me how well they were doing. Their customers gave them incredibly high ratings on quality. Turns out they measured it by the time it took to connect to a dial tone. They got something like a 95% rating under ten to fifteen seconds. I said, "Is that really what your customers want?"

They said, "We don't know, we've been using this measure for years." A few years later they went out and asked customers what they wanted. It turned out that as long as it took less than 25 seconds, which it had for years, customers could care less about connect time. What they cared about was the clarity of transmission.

What better way to define quality from the customer's point of view than to get out there and look? Some companies, like Whirlpool, require senior managers to do a stint every month on the phone hotlines, just so they never lose touch with customers.

A very specific example, which could easily be applied to healthcare: L. L. Bean, which has an outstanding reputation for quality and service, has a small internal group who are professional customers. Every year they shop by telephone from all of Bean's leading competitors, as well as from Bean itself. They call in orders for comparable merchandise. They don't identify themselves. They time the response, they check on courtesy, they time how long it takes to deliver an order. Frequently they'll beat up the merchandise and return it to see what kind of guarantee policy the company has. Then they'll compile a matrix at the end of the year saying, "Here's how we did at Bean. Here's how our competitors did." You could certainly do something similar in health care.

Step two

Once you've found out what's important to the customer, the next question is to discover how you stack up on those elements.

Let's say you decide that response time is important. Well, what's response time? Find out what can be done. You can compare yourself to your direct competitors. A second tool is something that was pioneered by Xerox called "benchmarking." The idea is: to be the best in your industry at something, you find whoever in the entire world is the best at that particular practice. Xerox, for instance, found that the company with the lowest billing error rates is American Express's Japanese subsidiary. To find out what would be appropriate billing error rates, they check themselves against American Express's Japanese subsidiary. Then they try to find out what practices are in place there that could be adopted at their organization. They don't expect to reach those levels. It's a different business, with different requirements and different cultural ethics. But they now have a standard and a whole set of practices which they can adapt to their own environment.

These first two steps are carried out in many places in Japan through a process called Quality Function Deployment. QFD is a formal technique that attempts to get "the voice of the customer" echoed into the design and manufacture of the product. The customer says, for instance, "What we really are worried about is the comfort of the ride." They do some comparisons against competitive models. Then they go to the engineers, and the engineers say, "What does a comfortable ride translate into? It's related to the thickness of the seat, and to the suspension system." They break down the desired characteristic, a "comfortable ride," into its subsidiary design aspects. Once they get it fine-tuned enough -- it requires, say, a change in the amount of lubrication in the shock absorber -- they reflect those changes in the way they manufacture shock absorbers.

Now, with these two steps, what you've got is either a gap that needs to be filled, or an opportunity that you can exploit in the market. Usually it's a gap. That's step two. You know what customers want, and you know how far you are from what's either the best practice or what's acceptable.

Step three

Step Three is a combination of setting internal goals and mapping out the relationship between the desired ends, and internal practices. You need to discover which are the levers that have the greatest effect on the outcome. You need to do a certain amount of research. You need data. You may have to conduct a few controlled experiments.

In healthcare, the workers are highly educated professionals, and they need to be involved in the process. There are usually two or three steps. First, you collect together the key professionals. You give them the outcome. You say, "First, let's see if we can develop what we think the process looks like." You have them come up with a process flow chart. Then you form a team to document whether that is in fact the process. Inevitably, the assumed process differs from the actual. All kinds of steps have been added that people don't think about, or don't even know about, or that are "re-do" loops because it wasn't done right the first time. This is an extremely enlightening exercise. I have seen this done for triage desk in an emergency department. People said, "This is pretty simple," and they drew five boxes. Then they went back and mapped it out; it turned out the process had 35 steps. They just didn't realize all these other steps were there. They began to ask, "Why do we do this? This step doesn't make any sense." They could immediately begin to eliminate redundancies and unnecessary steps.

So you map the actual flow process, and compare it to the hypothetical. Then you sit down and have a brainstorming session with these highly trained professionals. Now that we know what the actual process is, one, are there any steps we can eliminate? Two, what else do we think are high leverage opportunities to effect the outcome? Then you conduct a formal analysis. You collect data -- historical records, for instance. "We have had on x number of occasions waiting times of less than five minutes, but the bulk of the time the waiting times are an hour." What happened on those days? It's often not just that the inflow was heavy. It may be the person who was on each of those days manages the process differently.

For some organizations, you've got a built-in controlled experiment. If you're a large HMO, you probably have multiple sites, some of which perform better than others. You can collect the data, do some very simple statistical analysis, and find out why. What you find out may be very different than what people think is true.

Now you know what's important to your customers, you know how you stack up against competitors or against the benchmark. You've now established some sense of cause and effect, and have set some sort of internal goals.

Step four

The fourth step is to form action teams, or problem solving teams, to actually get the stuff done. The teams usually need to be cross-functional -- they'll cut across various groups. If there's a problem with medical records, you don't just put the medical records people on it. You involve doctors, nurses, administrative people, billing, anybody who has a stake in the outcome. Often an internal group will forget that the people who use its services are effectively its customers. Often they will be giving them things they don't need. The doctors will not realize how the medical records group is run or established, so they won't provide information for them in a way that would make things easier. You get these groups together, and for the first time they see each other's point of view.

For this fourth step, some Japanese plants use a process called "Hoshin planning." It's an implementation planning process that's organized around breakthrough objectives, measurable goals for improvement in selected areas. A Hoshin plan is a system of cascading goals. You start with one line of management. They will have a goal of "improve performance of x to 99 percent." They will have a strategy for reaching that goal, and they will have a set of measures which will let them know whether they are on track. The strategy that they have established will become the goals of the next lower-level group. They will in turn develop their own strategy for meeting that goal, and a set of measures for determining whether they are on track. And their strategy will cascade down to the next level. It's the same idea of deployment. In Quality Function Deployment we deployed the voice of the customer throughout the process. Here we are taking a very high-level goal and deploying it down through the company.

Hoshin Planning clearly shows the relationship between the general manager's goal, and the department manager's goal, and the first-line supervisor's goal. Everybody is clearly moving in the same direction. It builds up a structure of goals.

Quality saves money

It's a myth that quality costs money. If you define quality in Cadillac terms, which would be features and luxury, then quality does indeed cost more money. But if you define quality in Toyota terms -- a car that breaks down less, that meets the standards that we set for it -- this kind of quality, in fact, means lower cost. It saves you money.

A manufacturing analogy: Suppose you build it right the first time. Then you don't have to scrap any parts. Everything fits. You have no warranty expenses. It turns out that preventing problems from happening is vastly cheaper on a per unit basis, than fixing them after the fact. The cost moves up by a factor of 10 each time you move down the production and operations chain.

If you catch a mistake in a bill from a health care organization, what do you lose? You lose the piece of paper and about ten seconds of the typist's time. If it has to go through the reprocessing, it goes to a customer complaint form, it has to be re-entered into the system, it has to be mailed out again, there's a delay of a certain number of days in collection -- all of that adds up. In that sense, higher quality means lower cost.

Think back for a minute to the four steps I gave you. One of the steps, the third one, was to compare the assumed flow chart to the reality. Suppose you can eliminate 10 of those redundant steps. You're going to give more responsive service, and it's going to be cheaper. Higher quality can mean lower cost.

Hospitals run lots of unnecessary tests. Suppose we could get more precision on the circumstances under which tests are required. We would have more accurate diagnoses, and fewer ancillary illnesses and complications, which are sometimes due to the tests themselves. We would make more people well. And it would cost less.

Quality is systemic

A study was done here at a local hospital, Emerson Hospital in Concord. They traced incorrect diagnoses, and found that one of the major causes was the failure to connect different pieces of

information on an extended chart. The doctors knew the theory. They knew that if x, y, and z were present it should be the following. But the information was on different pages of the chart, they were rushed, they were interrupted. That's preventable. There's a system problem. The doctors were adequately trained, but they were not generating the right diagnoses. Well, let's think through what are the circumstances in which they would be better able to do it. Maybe they should hold all calls once an hour, except for emergencies. Maybe there should be less interruption in the actual diagnostic process. Maybe there should be a new format for charts.

The old way of approaching quality was an "inspect-and-check" mentality. That still is the dominant theme in the medical care area. That is something that is going to have to change. It needs to be more system-oriented. The old historical approach is the "bad apple." Of course, there are bad apples, bad doctors just as there are bad assembly-line workers. But more often than not, the problem on the assembly line was that the worker did not have the proper tools, did not have the proper parts, or did not have the proper instructions. Every one of those problems is under the control of management, and somewhat systemic in character.

The increasing back-office costs of health care show that the systemic response has to extend outside the four walls of the hospital. It's exactly what companies are doing today when they say, "We manage our suppliers." The same thing has to be done in the health care sector. There have to be relationships with outside groups, common standards, and an acceptance of common quality procedures.

It is very easy to talk a good game about quality. Yet to make it work requires a fairly substantial change in management attitudes and practices. You really have to listen to the customer, you have to assume that they know as much as you do, and sometimes more, about what makes for quality. You have to say, "Gee, maybe we don't have the best practices in the world, and somebody else does."