Jeff Oltmann on Mastering Projects
Quality as Delighter

You Can't Afford Poor Quality

Quality failures are expensive. They cause rework and re-do, leading to lost customers, poor productivity, and unhappy employees. Therefore, project teams must be very concerned about quality.

Impacts of Poor Quality
- Increased costs
- Low customer satisfaction
- Lower morale
- Reduced profitability

What is Quality, Anyway?

You may know quality when you see it, but a rigorous definition is hard to pin down. Let's contrast two popular definitions:

1 "Quality is conformance to requirements." This means that a high quality project produces what it says it will produce, as stated in the requirements written by the project team. If the requirements are well-written, accurately reflecting what the customer needs, the resulting product or service will also satisfy the customer. By this definition, giving the customer more than they asked for is harmful goldplating, not quality.

2 "Quality is fitness for use *as defined by the customer.*" Joseph Juran advocated this definition, which implies that a project should produce a product or service that satisfies real needs. What matters is whether the ultimate product or service does what the customer wants, regardless of what the requirements say.

The first definition says that you must do what you say you will do. The second is much harder – it says that to provide a product or service of high quality, you must satisfy its customers.
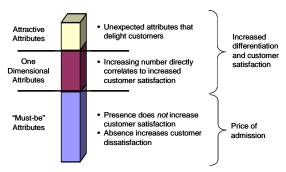
Delighting the Customer

Noriaki Kano researched what satisfies customers, thus increasing their perception of quality. Kano divided the quality attributes of a product or service into three categories: must-be, one-dimensional, and attractive.

Must-be: Customers expect must-be attributes as a matter of course. Think of them as the minimum price of admission – missing must-be attributes increase customer dissatisfaction, but their presence does not increase satisfaction. For example, delivering passengers safely to their destination is a must-be attribute for an airline. A passenger will not give an airline any quality points for providing this service, but will be very unhappy if the airline doesn't deliver it.

One-dimensional: These attributes start to add some differentiation from competing products or solutions. Customer satisfaction directly increases as each one-dimensional attribute is added, although missing one-dimensional attributes don't necessarily cause dissatisfaction. Generous aircraft seat spacing and width is a one-dimensional attribute of airline service for most people. Satisfaction increases if it is present, because it makes travel more pleasant.

Attractive: Attractive attributes, also called "delighters," are delightful, unexpected surprises. While a customer might not notice the absence of an attractive attribute, its presence delights him. An example of a delighter in air travel is a gate agent working minor rescheduling miracles to get you back home in time for your daughter's birthday party, despite a cancelled flight.

Kano suggests that the key to customer satisfaction, and thus to quality as defined by Juran, is to provide all must-be attributes, as well as a high level of one-dimensional attributes and one or more attractive attributes. This eliminates dissatisfiers and provides differentiation.

Delivering Quality on a Project

How do you achieve high quality on a project? The Project Management Institute specifies three processes that should be part of a quality management system.

Quality Planning: This activity happens early in a project, during planning.

- What quality approach is appropriate for this unique project?

- What level of quality will this project aim for?

Perform Quality Assurance: This activity implements quality during the execution phase of the project, after planning is substantially complete.

- Is this project on track to hit the quality targets defined during planning?

- What lessons can the project team learn to improve quality?

- Is the quality approach for this project still appropriate?

Perform Quality Control: This activity measures details of quality during the control phase of a project, concurrent with performing quality assurance.

- Inspect and test samples of work products, and remedy defects found.

- Verify that the outputs of this project have achieved quality targets. If not, what we will do about it?

Repeatable Quality

Quality pioneer W. Edwards Deming observed that 85% of opportunities for quality improvement came from changing the system, so he concluded that quality is usually a system issue, broader than a single project.

Consistent quality requires two complementary system approaches, whether your project is designing a new product, deploying a software application, or improving a business process.

Inspection and appraisal systems methodically detect and correct mistakes before they escape to the customer or users. For example, a software developer will run regression tests on new software modules, and then fix the bugs that emerge.

Prevention systems seek to prevent mistakes and defects in the first place. As Deming says, it is impossible to "inspect quality in." For example, some software developers use paired-up programmers and careful design reviews to squash bugs before they ever come to life.

Insufficient prevention leads to an escalating death spiral of firefighting. For example, one of my clients battles a constant barrage of quality escalations on current products. To handle the escalations, he diverts design engineers from new projects that are developing future products. Unfortunately, those now under-manned projects no longer have critical mass to improve future quality, guaranteeing more fires later.

Repeatable quality requires both prevention systems to eliminate root causes of quality problems and inspection systems to catch what wasn't prevented.

Getting Better All the Time

Quality that delighted the customer on the last project is likely to be unacceptable on the next project. Therefore, quality is an ongoing journey of continuous improvement. Two types of tools are essential on this journey.

1. Techniques for diagnosing and solving quality problems, including Six Sigma or TQM.
2. Methods for continuously improving processes, usually based on the Plan – Do – Check – Act cycle developed by Deming and Shewhart.

Endpoint

1. Quality is what the customer says it is. Your project must satisfy the real needs of its customer.
2. Customers perceive the highest quality when projects provide delighters and avoid dissatisfiers, regardless of what requirements say.
3. Repeatable quality is a system issue, and requires both defect prevention and inspection systems.
4. You can't rest on your laurels. Quality improvement is continuous.

For Further Reading

1. The Project Management Institute, *The Standard for Program Management.*
2. Kano, Noriaki, *Attractive quality and must-be quality*, The Journal of the Japanese Society for Quality Control, April 1984, pp. 39-48.

An archive of these articles is at http://www.spspro.com/SPS_cases_papers.htm

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