Avoiding Quality Chaos: Knowing Which Tools to Use and When to Use Them
Well, the days of "Japan Junk" are long gone, and the world now looks at Japanese production methods as the global standard for quality. Businesses in the U.S and Europe have spent substantial amounts of time studying and emulating those methods, most especially the components of the Toyota Production System (TPS).

First, the Quality Circles method was promoted as the cure-all for Western quality woes. When that didn't solve all of the problems, businesses moved on to SPC (Statistical Process Control) and TQM (Total Quality Methodology). JIT (Just in Time) was next, followed by Lean, Six Sigma, and many others – all in an attempt to find the single most important element of TPS.

But all of this dissecting of TPS missed the point. The magic behind TPS isn't in its individual tools but in the cultural integration of those tools. In short, the key to quality success is the ability to have all aspects of TPS available at all times and to use each approach as appropriate.

What is Quality?

Before you can strive for quality, you need to have a basic understanding of what quality is; and there is an enormous amount of confusion around that. If it were possible to come up with a standard definition of quality that could satisfy everyone's expectations, then defining "optimal quality" would be easy. It turns out there are entire organizations that pursue
a meaningful definition of quality. Despite that—or perhaps because of it—identifying a single practical definition of quality is a nightmare. When we surveyed quality systems users for their personal definitions, here are just some of the answers we got:

1. Whatever the customer wants it to be
2. Satisfying customer expectations
3. Defect-free product
4. Zero waste
5. No returns

As you can see, there is no consistency in this list. One individual’s definition of quality is extremely different from another’s, and it comes down to their individual perspective or focus, whether User, Customer or Supplier. This is quality chaos.

To avoid quality chaos, your organization must formulate its own definition of quality and create an accountable, quantifiable process to achieve it because we see that far too often quality is only given lip service. If it’s not a critical performance driver, and if it’s not measured, then quality won’t occur. Quality is not the sole responsibility of some obscure quality department or cost center; it’s everyone’s responsibility, from production workers to office clerks to management.

In fact, it’s important to remember that the quest for quality is not limited to production. I’ve often found myself in organizations that take two days to produce a part and 10 days to process the order. To my mind, no matter the definition, that’s not quality.

Front office quality is just as important as production quality. Front office employees are the interface with the customer. A rude phone response can damage a company’s reputation no matter how good the parts are. But the tools used to increase front office responsiveness and throughput (which is often a measure of front office quality) may not necessarily be the same tools that you would use to improve production floor quality.

**Addressing Improvement Gaps to Achieve Quality**

Several years ago I joined a high-tech company as director of quality. The company had a defect rate of more than 14 percent, unacceptable to the company’s CEO. When I came into the position I discovered numerous problem areas, including performance measure. Performance was measured as units produced and lacked a quality component. But there were also problems in the front office, in order processing, in engineering, in shipping. The list goes on. All of these, combined together, resulted in a reputation of poor quality performance.

So I set out to define the specific quality failure areas. Everyone had opinions about where the quality failures occurred, and, of course, it was always “the other guy” who was at fault. To get beyond management rhetoric and learn for myself, I took a hands-on approach and physically went to work in different departments.

After a couple of weeks it became pretty obvious where the problems were -- they were everywhere. It was a combination of errors, process shortcomings, systems failures and more that resulted in the quality issues. With this information, I developed a plan of attack which included a long list of fixes to improvement gaps:

- Identify and implement a production control system
- Train all the employees (especially management) in:
  - Quality improvement processes and tools
- JIT
- Lean
  - Change the incentive system to incorporate a quality measure
  - Establish engineering integration with the production floor (have engineers redesign parts better in terms of cost and ease of production)
  - Review all front office processes
  - Place strategic focus on the R&D area
  - Review supply chain integration

After the training was well under way (of course, it’s never finished) we initiated a Quality Week. The guiding principle was: “You can do anything to your work environment, change and rearrange any of the equipment, do whatever it takes, but you cannot produce any bad parts.” It was basically a plant-wide Lean event.

When the idea was first introduced to management they were concerned that they would lose valuable productivity and throughput. And, in fact, the first day was a productivity disaster. Employees took machines apart and rebuilt them and moved equipment around, resulting in a considerable amount of lost throughput. Similarly, the front office was rearranged and copiers were moved. However, by the third day, the lost throughput of the first day was not only recovered, workers were ahead of their normal three-day throughput. And they weren’t producing bad parts.

The focus on quality, including quality training, continued and by the end of eight months we had reduced the defect rate to below 2 percent. In the following months we brought it to below 1 percent. Additionally, cycle time had been reduced, inventory had been reduced by 40 percent, and capacity had been increased by 20 percent. The capacity improvement was the biggest surprise to management, but it shouldn’t have been. Not wasting capacity in producing and fixing bad parts increases the capacity to produce good parts.

Was there one magical fix-all quality tool that was employed to solve all the problems in this factory? Not at all. It was a combination of several tools, appropriately applied, that eventually resulted in this success story.

**The Importance of a Quality Manager**

Even with the understanding that solving quality issues requires the appropriate application of numerous tools, questions remain, including, "Which quality tool do you use where and how do you avoid the quality chaos that is tangling up numerous companies?"

The answer is that you need someone in your organization who understands the options that are available for quality improvement. What are the tools that exist? How and when
should they be used? Your director of quality should not be an inspector but, instead, someone who offers guidelines for a quality system and quality tool selection and implementation. He or she should know the tools and be able to direct the appropriate application of the correct tool. A quality manager drives an organization towards a world-class environment.

How do you get started? One excellent tool to help facilitate the definition and drive toward quality is found in the Shingo Prize program. This program defines the criteria for organizational excellence and has a specific set of criteria that define this excellence.

In summary, quality should not be the source of organizational chaos. A world-class quality system will focus on building leading-edge quality environments; and a quality director should focus on developing a process for identifying and selecting appropriate quality tools. By defining what quality means to the organization, identifying the correct people, and selecting the best possible combination of tools to create a quality environment, any organization can and should become world class.

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