

FACE IT, YOUR QUALITY STINKS!

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You know it. All of the other people in your company know it. And now even your customers are starting to know it. Are you ready to fix it? This article will focus on the essential elements necessary to achieve "World Class" levels of quality. Each of the twelve elements of quality, grouped under management, people, and technical, will be presented in detail along with their integration and importance explained, along with examples and illustrations from a number of companies who have successfully implemented Total Quality Management.

Most people feel certain that they know the meaning of quality: producing an error-free product. Yet, an error-free product that does not do the job that the customer wants it to do is not a quality product for that customer. It is a defect.

The American auto industry was one of the first industries to learn the impact of being perceived as a producer of defects. The lesson was not lost. Now, the entire industry is focusing on quality, not only in its advertising slogans but also in its manufacturing plants.

Yet, what the industry hoped might be a quick-fix problem has turned out to be a mission, the introduction of a new way of life. That's because achieving Total Quality requires an overhaul of resources and practices throughout the entire business process, in the office, the plant, engineering, management...everywhere.

To achieve Total Quality in any company, you must have a clear understanding of three key concepts:

1. What is quality?

Quality means more than conformance to a standard. Quality means providing products and services that satisfy the requirements defined by the customer who uses the product. In a manufacturing company, "the customer" must be perceived as everyone, not only the end user who buys the product, but each next step in the internal process. In other words, quality throughout the entire process.

2. What makes quality?

People make quality. They determine what products are needed, design the products, develop specifications, buy the parts, assemble the pieces, and ship the products. If a company's people aren't good at what they do, don't understand what's expected of them, or have poor attitudes toward their jobs, they won't do quality work. The result? Poor product or service quality. On the other hand, even the best, most knowledgeable workers with the brightest attitudes can't produce quality products if the process is flawed.

3. What causes problems in quality?

Problems in quality reflect problems in the process. More specifically, they reflect variations in the process. Making a single item right to specification is well and good, but if the process cannot produce them consistently within tolerance and with minimum variation, quality problems will occur.

TOTAL QUALITY - TOTAL BUSINESS PROCESS

All departments and all people contribute to creating a defect-free environment. It starts with market research, a process for defining the end-user customer's wants, needs and acceptable price. Engineering is then responsible for creating a product and process design capable of meeting the customer's requirements.

Experience has shown that quality problems follow a 40/30/30 rule. This refers to the fact that 40 percent of all quality problems are related to product design, 30 percent are attributable to the production process, and 30 percent are a result of supplier-related problems - - largely, defective materials. Therefore, emphasis must be placed on getting manufacturing and suppliers to participate early in the design process so that they can aid in eliminating design problems that may result in eventual problems in their areas of responsibility.

In short, Total Quality involves all aspects of the business process: product conceptualization, product specifications, product design, the manufacturing process and performance to specified criteria and service. Total Quality reaches far beyond parts and products on the manufacturing floor and shipping dock to embrace every aspect of the entire business process.

THREE KEY AREAS

Success with a Total Quality program requires instituting a focus on quality in each of three key areas of your company: management, people and technical.

1. Management Objective

The management objective in a Total Quality company is to ensure that each stage of the process passes to the next "customer" a product or service totally fit for use - - whether that customer resides in Engineering, Finance, Manufacturing, Administration - - or the general public.

2. People Objective

The people objective in a Total Quality company is to develop Total Employee Involvement in an effort to continuously improve the product and process. This demands a substantial investment in education, in Small Group Improvement Activities (SGIA) and creation of an environment where all levels, both management and hourly workers, are given the responsibility and authority to monitor and improve quality.

3. Technical Objective

The technical objective in a Total Quality company is to reduce process variability throughout the entire business to achieve a perfect production process - - one which yields 100 percent defect-free product.

WHAT'S YOUR QUALITY QUOTIENT?

The first step in the quest for Total Quality is to evaluate your current performance. Basic questions in each of the three key areas will help you assess your quality culture.

Management Element Questions:

1. Customer-Oriented Quality.

Who is your "customer" - - both your end-user "customer" and your next-stage-in-the-process "customer?" What are your customer's exact, fit-for-use requirements? Do you continually survey your customers to assure that you are always providing products and services, which exactly meet their needs?

2. Management Leadership.

Is management prepared to invest the resources, direction and motivation required for Total Quality? Does top management have a vision that encompasses how the company must operate today to meet current commitments as well as how the company must look and function in the future to meet future market and customer needs? Can top management communicate that vision effectively to the entire organization?

3. Process Orientation.

Do you have a focus on process? Do you accept the idea that the only way to fundamentally improve the business is to improve the process?

4. Continuous Improvement.

Are you comfortable with the concept of a never-ending quest? Do you have the patience and fortitude to aim at long-range improvements? Is continuous improvement a "can-do" philosophy in your business?

People Questions:

5. Total Employee Involvement.

Is everybody involved in the quality improvement process? Do you use Small Group Improvement Activities (SGIA) to teach people how to identify and resolve their own quality problems? Are suggestions for improvement being solicited and implemented at all levels in the organization?

6. Education and Training.

Do you have a commitment to high standards for education and training - - at all levels of the organization? Do you view education and training as discretionary spending or as an investment in people that will yield a significant return?

7. Problem Solving.

Do your employees have training in problem-solving techniques? Cause-and-effect diagrams (CEDAC)? Brainstorming? Are your employees closest to the product and manufacturing process considered the best resource for fixing problems? Do they have authority to stop the production process when there is a quality problem?

8. Quality at the Source.

Do you depend on inspectors or a Quality Department to enforce compliance? Or are the people who do the actual work responsible for quality?

Technical Element Questions:

9. Product Design.

Do you involve Manufacturing and your suppliers in the design engineering process? Do you emphasize building quality into the product and the process? Do you reward contributions that promote simplification of the product and processes?

10. Fail-Safing.

Is your manufacturing process designed so that errors cannot be made or so that they will be immediately detected? Do you utilize sensors, limit switches or other quick response signals that indicate defective, missing or misaligned components?

11. Statistical Tools.

Do you use tools such as pre-control charts and design of experiments to maintain control, identify key variables and improve your manufacturing process? Do you know what percentage of your production equipment is process capable, and do you have a program to continually improve process capability?

12. Reduce Variability.

Is your goal to produce product within specification limits, or is it to minimize variation in your product and process? Does management understand that variability in all aspects of the business process and at any point in the product chain is the primary source of cost-adding activity? Have you identified the significant variables that add cost in your business, and have you initiated efforts to reduce or eliminate them?