



Newsletter

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We're Moving !

I want to inform you all that Sustaining Edge Solutions, Inc. is moving. I am getting married in October and moving myself and my business from Phoenix to Tucson, Arizona. My beautiful wife Tina, is an account executive with an insurance company in Tucson and we are having a new home built in Northwest Tucson expected to be completed in the Spring of 2006. Effective September 29th, 2005 our company address is:

Sustaining Edge Solutions, Inc.
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We have established a *toll-free phone number* for all our clients and future clients to contact us. We will continue to provide all our services with exceptional customer service, including our monthly newsletter. I want to thank you all for your continued support and I am looking so forward to my future personal and professional life.

Sincerely yours,

Walter Tighe
President
Sustaining Edge Solutions, Inc.
www.sustainingedge.com

TRIZ: A Method for Creative Problem Solving

TRIZ--a Russian acronym for "Theory of Inventive Problem Solving"--is a different kind of creativity system. It's based on the analysis of creative solutions to past problems. TRIZ applies to both continuous improvement and development of new products and services because continuous improvement requires solving current problems, and development requires finding a way to solve customers' problems. Research on the TRIZ method was done in the former Soviet Union from 1946 to 1985 and has continued globally since then. *Quality Digest* featured an extensive introduction to the method in its February 2004 issue ("Enhance Six Sigma Creativity With TRIZ").



Two basic principles in TRIZ maintain that:

- ✚ Somebody, someplace, has already solved your problem or one similar to it. Creativity means finding that solution and adapting it to the current problem.
- ✚ Don't accept compromises. Eliminate them.

The quality improvement profession embraces these principles because quality thinking integrates benchmarking, which is strongly related to the first principle, and eliminating root causes rather than just improving symptoms, which is related to the second. The idea of eliminating problems rather than accepting compromises goes against the grain of standard business and engineering teaching, which emphasizes tradeoffs, cost-benefit analyses and other methods of compromise. TRIZ recognizes two kinds of compromises (frequently called "contradictions").

Technical contradictions. These are the classic engineering and business trade-offs in which the desired state can't be reached because something else in the system prevents it. In other words, when something gets better, something else gets worse. Examples include:

- Product gets stronger (i.e., good), but the weight increases (i.e., bad).
- Bandwidth increases (good) but requires more power (bad).
- Service is customized to each customer (good), but the service delivery system becomes complicated (bad).
- Automobile airbags deploy quickly to protect the passenger (good), but the faster they deploy, the more likely they are to injure or kill small or out-of-position people (bad).

Physical contradictions. Also called "inherent" contradictions, these include situations in which one object or system has contradictory or opposing requirements. Everyday examples abound:

- Surveillance aircraft should fly fast to their destinations but also slowly to collect data over the target.
- Software should be easy to use but include many complex features and options.
- Coffee should be hot for enjoyable drinking but cool enough to prevent burning consumers.
- Training should be thorough but not take too much time.

TRIZ doesn't depend on team members' knowledge or their personal creative capability to solve these problems. The first group, the "technical" or "tradeoff" contradictions, are solved using the 40 principles of problem solving. Many people have expanded on the original TRIZ research to demonstrate that the 40 principles apply to a wide variety of disciplines. (See *The TRIZ Journal* [www.triz-journal.com] for examples of the 40 principles in chemical engineering, sales, microelectronics, education, and quality management, among others.)



The second group, the "physical" or "inherent" contradictions, are eliminated using four basic principles to separate the requirements that appear to be contradictory in time, space, between the parts and the whole, and between the super system, system, and subsystems.

For example, the airbag problem can be solved at the subsystem level by changing the bag material so that it won't grab the skin of the face and twist the head of a small, out-of-position person. The problem can also be solved at the super system level, in several ways:

- If the car can't crash because it's part of a super system that knows the positions of all objects and controls their speeds (a technology that's fewer than eight years away, according to some predictions)
- If the structure of the car absorbs the force of the crash, and the airbag isn't needed
- If the social and/or legal system is such that small people never sit in the front passenger seat

What's your organizations continuous quality improvement method? Define-measure-analyze-improve-control (DMAIC) or design for Six Sigma (DFSS) or Plan-do-check-act (PDCA) or Plan-do-study-act (PDSA)? Is it Quality circles, Process improvement, Total quality management, or *Kaizen*?

No matter what you call it, the vast majority of successful organizations have some way of tracking down their problems and doing something about them. The quality profession has been and will continue to be at the center of identifying, tracking, and solving organizational process problems.

Reference: [Quality Digest Magazine August 2005 Ellen Domb, Ph.D.](#)

Survey Says: Six Sigma Leaders Are More Effective

A new survey finds that Six Sigma-related corporate training programs are six times more likely to be recognized as highly successful than those without the methodology.

Additionally, only 15 percent of programs rated highly successful didn't include Six Sigma. Three percent of the programs viewed as highly unsuccessful involved Six Sigma. About 60 percent of respondents said Six Sigma-trained co-workers were moved into new leadership positions after training, compared to 14 percent of Six Sigma-trained employees who returned to their original jobs after training.

"We all want to work for leaders who make good decisions based on data, not emotions, who share responsibility, who know how to generate results," says Michael Cyger, *iSixSigma* magazine publisher. "We want leaders who are enthusiastic about passionate about what they're doing. Those are exactly the skills and qualities that make Six Sigma professionals most successful and that Six Sigma helps build in future leaders." The survey was performed by *iSixSigma* magazine, and polled 1,300 business professionals from around the world whose companies use Six Sigma.