

The State of Six Sigma

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Mark Twain once said that the "The reports of my death are greatly exaggerated". This author has often been asked if six sigma is still a vital program or has it passed the way that a lot of quality programs have passed, out of the limelight. Some programs such as zero defects, TQM, ISO, Malcolm Baldrige, have peaked at times in favor and then waned some.

Six Sigma is different: it is the scientific method, with rich tools content, and a quantifiable language that bridges cultures and language barriers. Let's discuss these one a time:

1. The scientific method is a body of techniques for investigating phenomena, acquiring new knowledge, or correcting and integrating previous knowledge. It is based on gathering observable, empirical and measurable evidence subject to specific principles of reasoning. A scientific method consists of the collection of data through observation and experimentation, and the formulation and testing of hypotheses (Wikipedia). Six sigma does this by systematic problem resolution in 1. defining, 2. measuring, 3. analyzing, 4. improving, and 5. controlling the final solution, to assure the best solution is maintained. Measurements are made and validated to assure credible data. These measurement integrity are quantified through gage measures, overcoming many data integrity problems. This makes test results and their conclusions believable.
2. One other negative assertion regarding six sigma is that it does not have any new tools. Design of experiments goes back to agricultural experiments on crop yield before world war II. Fisher conducted these experiments and the F-test for significance bears his initial. So many of the tools that six sigma uses have been around for awhile. Six sigma bring the frame work to systematically apply these tools to problems. Also there are tool suites now, such as Minitab and others, that integrate these tools into its macro structure, taking the tedium out of the analysis.
3. Six Sigma equates to 3.4 defects per million opportunities. This is a world standard, that is attainable on high reliability systems such as commercial aircraft and the NASA space shuttle. It is a high target that the best companies strive to obtain. The language of six sigma is understood around the world which aids today's global operations.

Lastly, six sigma gives executives the reasonable expectations for good financial returns on their quality investments. These returns continue to be touted in the press, c.f., <http://www.qualitydigest.com/nov01/html/sixsigmaarticle.html>. The question was asked in the survey reported in the January Quality Digest, "was six sigma worth it?" The answer reported was a resounding "yes". Also this author continues to receive the most opportunities to consult in the six sigma area, compared to any other technical area. A technical colleague of mine has been out of work for some time, now laments he should have taken six sigma training. The scientific method will always be in vogue: so will six sigma.