Thomas Pyzdek

Still Targeting Perfection

After two decades and counting, Six Sigma continues to prove its worth.

In 1981 I was working for an aerospace company in a position known as "head, total quality systems." Total quality systems (TQS) was a precursor of both total quality management (TQM) and Six Sigma. The role was created by my employer's vice president of manufacturing after he and his staff, at my behest, attended a seminar held by W. Edwards Deming. Their experience at the seminar was quite unpleasant, because they made two mistakes: They let Deming know they were senior managers of a U.S. company, and they sat in front.

After the seminar they decided to reconsider their approach to quality, although they weren't sure what to do. TQS was created to help them find the answers. Our mission was to research best practices in quality, identify those with potential and promote the use of these promising technologies within the organization.

We enlisted the vice president and his staff as a steering committee and obtained a list of opportunities to address. Projects were chartered, each with a senior leader acting as a sponsor. Most project teams included a person with a master's degree in an engineering discipline, including several statistics courses. The projects were wildly successful, as would be expected when the fruit wasn't just low-hanging but lying on the ground in piles.

Although the TQS approach bore similarities to Six Sigma, there were many important differences. The figure at right lists a number of differences between the quality environments of 1981 and 2006. Two of them are critical. First, in 1981 the highest level of leadership that one would find actively involved in performance improvement was a vice president. The CEO supported the vice president, but that support was generally passive. There were exceptions, of course; Ford Motor Co. president Donald Petersen was perhaps the most noteworthy. Petersen took Ford from three sigma to four sigma in less than five years and restored the company's profitability as a result.

Second is the development of a well-defined project framework. Motorola started with measure-analyze-improve-control (MAIC), which helped take the company all the way from the brink of bankruptcy to a Baldrige Award in just a few years, sans Green Belts and Black Belts. General Electric added "define" to the framework and gave us the DMAIC approach that dominates Six Sigma today.

People who have learned the Six Sigma approach think differently. When the CEO thinks differently, the rest of the organization soon follows. Business schools will begin teaching the Six Sigma way of running an organization instead of old-fashioned command-and-control management. Organizations that don't get on board will find themselves at a severe competitive disadvantage. Evolution will do the rest.

Business Performance Improvement, 1981 vs. 2006

Then	Now
CEO/president supports efforts	CEO actively leads efforts
Control existing processes	Improve and redesign existing processes
Acceptance sampling widely used; usage going down	Acceptance sampling seldom used; usage going up
Quality the only important metric	Cost, schedule and others are all important
Data scarcity	Data abundance
Juran's breakthrough approach to quality improvement via projects	Six Sigma breakthrough approach: Juran + "Belts" + DMAIC or DFSS project frameworks
Customer is king!	Customers, shareholders, employees and community are all important stakeholders.
The long term is all that matters	The short and long term must be balanced
Quality function drives and often directs improvement activities	Senior leadership directs change activities to drive business results
Function-oriented business model	Value-added process model
Focus on process, assume results will follow	Results reviewed as process outcomes
Very little proactive use of statistical methods	Design of experiments (DOE) in widespread use
Manufacturing dominates	Service and transaction organizations also using Six Sigma
No official change agents	Change agent positions are commonplace (i.e., "Belts")
In-depth statistical know-how the province of a select few with advanced technical education	Statistical thinking and understanding widespread due to bench strength of former Belts
Lean work flow the province of industrial engineers	Lean a major component of Six Sigma in service and transactional as well as manufacturing industries

About the author

Thomas Pyzdek, author of The Six Sigma Handbook *(McGraw-Hill, 2003), provides consulting and training to clients worldwide. He holds more than 50 copyrights and has written hundreds of papers on process improvement. Visit him at* www.pyzdek.com. **QD25**

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