



Quality Connection

Official Newsletter of the Baltimore Section, ASQ

January 2001

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**Support your local Section this year.
Attend monthly Section meetings.**

Chairman's Message

Frank Vojik

They're here!!!!.....

No, I'm not talking about the ghosts in Poltergeist - it's the official publication of the of the ISO 9001 Quality Standards by the International Organization for Standardization. For first time in the 13 years of existence, the standard will explicitly address customer satisfaction and continuous improvement as requirements for Quality Management Systems. The standards consist of ISO 9001:2000 Quality Management System Requirements, ISO 9004:2000 Guidelines for Performance Improvements, and ISO 9000:2000 Fundamentals and Vocabulary.

This didn't come easy. It took over five years of difficult and often contentious negotiations over five continents to get the standards written and approved. Starting in Durban, South Africa in 1995, TC-176 first met to revise this globally recognized standard. One of the first achievements of that meeting was the agreement to pursue the concept of a single registration standard.

In successive years TC-176 met in Tel Aviv, Israel, Rio De Janeiro, Brazil, San Francisco California, and finally last year in Kyoto, Japan where final agreement was made on the concepts of continual improvement and customer satisfaction.

We've all heard that increased evidence will be put on continuous improvement and customer satisfaction - and the metrics needed to measure them - but for the section members I'd like to distill the changes in ISO 9001:2000 (also known in some circles as 9K2K) into the 5 key differences from ISO 9001:1994. This information is courtesy of *Quality System Update*:

The Five Most Significant Changes from ISO 9001:1994 in ISO 9001:2000

- The change is ISO 9001:2000's structure and its reduced requirements for documented procedures. Those of you familiar with the Environmental Standard ISO 14001 will immediately see the linkage between the two. 9K2K is now structured in the same manner as 14001. Although the requirements (the "shall" word) for documented procedures are greatly reduced, it is expected most companies will maintain their current level of tier 3 documentation.
- Promotion of a process approach to quality management based on the eight quality management principles.

Customer Focus
Leadership
Involvement of People
Process Approach
System Approach to
Management

(Continued on page2)

Chairman's Message (Continued from page 1)

Continual Improvement

Factual Approach to Decision Making

Mutually Beneficial Supplier Relationships

- The introduction of applicable requirements to determine what and what cannot be excluded from the scope of an organization's Quality Management System. This will be limited to a specific section in the new standard - product realization.
- Explicit requirements for the continual improvement of the Quality Management System. Goals and objectives will have to be set along with metrics to measure the improvement.
- Establishment of customer satisfaction as Quality Management System requirement. The 1994 standard mentioned customer requirements and satisfaction three times. The new standard mentions it **33 times** so it's obvious that the standard writers are serious about this requirement.

What does this mean for those of us who are ISO compliant and registered? First of all, organizations are being allowed three years to be 9K2K compliant. Second, it means that with the publication of ISO 9001:2000, ISO 9002 and ISO 9003 go out of existence. Third it allows organizations to more efficiently integrate an Environmental Management System (EMS) into an existing QMS. EMS implementation is rapidly becoming a requirement of automotive suppliers. Fourth, and most importantly for many of us, the focus is now shifted from conformance to a set of vaguely written requirements to identifying and meeting customer satisfiers. No more jokes about concrete life preservers!

I expect that next year's section meeting program will contain at least one presentation on the application of the new standard. In the meantime, become familiar with these new requirements and the impact they will have on your business. ISO 9001:2000 - a new quality standard for a new millennium.

Certification Comments

Mike Gaylin, CQT, National Instrument prepared for the exam by taking:

- CQE Review class at Catonsville Community College, taught by **Lloyd Dixon**, in the Spring '00
 - CQT Review class at Catonsville taught by Lloyd Dixon, in the Summer '00
 - Gage R and R class, taught by **Sid Lewis**, Fall '00.
- "For resources, I used the Quality Council of Indiana *CQT Primer*; *Quality Control* by Dale Besterfield and the ANSI/ASQC Z-1.4 Sampling Plans. After going through thorough preparation and many hours of studying, I felt the exam was fairly easy. The Besterfield book was an excellent resource, easy to

read and understand. I am now preparing for the CQE exam in the Spring."

Noble Cates, CQ Manger from Lockheed Martin Information Systems stated "I went to the Anne Arundel Community Collage CQM Exam Prep course in 1999. This was my third exam. Two in 1998, then I skipped 2 exams due to Project workload. This year I started 2 months in advance and actually read the ASQ CQM Course book, cover to cover. Two weeks before the exam, I took 3 days off and did focused study on the first 3 sections, spending a lot of time on the computer study questions after reading each section again. Practice makes perfect! The week of the exam, I took another 3 days and did the same with the last 3 sections. I focused on the self-study, and the pre & post exam questions in the ASQ CQM Course Software disk. I relaxed the day before the test and played with the family.

The exam was just as advertised. I quickly read each question, and if I KNEW the answer, I answered it. If I "thought" I knew the answer, but had some question in my mind, I answered it, but circled the question number in the question booklet. If I did not know an answer, or if I was torn between two answers, I put an "X" on the question number and moved on. At the end of the 1st pass, I took a 10 minute break. I had 14 "X"s and 12 circles in the question book. After the break, I focused on looking up the "X"ed questions. I found 11 of them. I took another break. I then focused on looking up the Circled questions. I found 10 and changed 4 of the twelve. I had 10 minutes left in the exam so I reviewed each mark on the answer sheet and found two blanks which I could answer directly. I was done less than a minute before the exam time allowance was completed. I felt drained, and the long drive back to Kent Island was therapeutic.

After the exam, I felt I had done well but as with the previous exams, the questions asked do not always allow you to know whether you "guessed" well or not.

My Reaction to Passing: My wife called me at work. It was two weeks before I expected to hear anything, so I was surprised and very happy. I told my boss and got a free lunch out of the deal. I am very pleased, and expect that the certification will open doors in my advancement and future job opportunities.

Section Pass Rates - October, 2000

For the recent round of certification exams, the Section had the following pass rates:

Exam	Total	Pass	Per Cent
CQT	8	5	62.5 %
CMI	15	5	33.3 %
CQ Mgr.	5	3	60.0 %

Newly Certified Quality Personnel

The Baltimore Section recognizes the following newly certified individuals who have passed the October 2000 series of ASQ examinations.

Certified Quality Technician

Ray Cress	Polk Audio
Michael Gaylin	National Instrument
Michael Kefauver	Fairchild Controls
Danny Koenig	Bowles Fluidics
David Lorden	GAF BMMC

Certified Mechanical Inspector

Gene Donovan	US Can Co.
Casper Harding, Jr.	Fairchild Controls
Gregory Smith	US Can Co.
Frances Snyder	Northrop Grumman
Richard Wilkins	Northrop Grumman

Certified Quality Manager

Noble Cates	Lockheed Martin Information Services
Eileen Karl	Mail-Well Label

We commend each of these individuals as they reach a new level in their professional growth.

Information Technology Excellence Symposium

The Johns Hopkins University Applied Physics Lab, in conjunction with ASQ - Sections 502, 509, 511, Quality Assurance Association of Maryland (QAAM), Society for Software Quality (SSQ), Software Process Improvement Network (SPIN) - DC Section and Maryland Section, and Q-Labs will present an ***Information Technology Excellence Symposium*** on Wednesday February 14, 2001 at the Johns Hopkins University Applied Physics Laboratory, Columbia, MD.

The goal of the Symposium is to promote excellence in today's fast pace development environments within the greater Maryland, Virginia, DC area to encompass the following disciplines:

- Quality
- Management
- Software Engineering
- Process Development

Sessions will include topics on:

- CMMI
- Security
- New Technologies/Organizational Transition

Preliminary Program Offering

- 7:30-8:30 Registration w/continental breakfast
- 8:30-8:45 Introduction/Welcome
- 9:00-10:30 **"Excellence in Software Engineering -**

The Heart & Core of IT" Thomas Drake, Int. Computer Concepts; **"Experiences in using the CMMI"** Winifred Menezes, Q-Labs

10:30-10:45 Break

10:45-12:15 **"Managing Automated Software Testing and the Web"** Elfriede Dustin, Bureau of National Affairs; **"Principles for Building More Secure Systems"** John Viega, Virginia Tech

12:15-1:15 Lunch

Lunch will be at a discounted price to attendees.

1:20-2:50 **"Event Driven Learning as Part of the Quality Professional's Toolkit"** Michael J. Hillelsohn, Software Performance Systems;

"Applying Agent Technology" Assad Moini, Software Productivity Consortium

3:00-3:40 **"Science of Software QA"** Dr. Linda Rosenberg, NASA

3:50-3:55 Closing Remarks

DIRECTIONS: Johns Hopkins/APL, Columbia, MD From Baltimore, I-95 South to MD 32 - West. Go 2.5 miles to US Route 29 South. Take 29 for 1.5 miles to Johns Hopkins Rd. APL is located on the right just past the service station. Take 2nd entrance to Bldg. # 1. URL: <http://www.jhuapl.edu/public/visit/locat.htm>

For More Information: Joel Glazer, 410-765-2346 or Joel_glazer@mail.northgrum.com

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Name: _____

Address: _____

Phone: _____

Email: _____

Affiliation: (circle one)

- ASQ 502, ASQ 509, ASQ 511
- QAAM, DC-SPIN, MD-SPIN
- SSQ, Q-Labs, Other

Mail this form with a check for \$30 payable to: **American Society for Quality, Section 509** at the following address:

American Society for Quality
Washington Section 509
PO Box 2742
Kensington, MD 20891-2742

Managing the Quality System Documentation Beast

by Jim Triller

The challenge of documentation is how to effectively manage ever-growing quantities of information. The traditional “notebooks” are fast becoming too heavy for all but the strongest of us and too big to be comprehensible. One document management method is to use the power of the web. Web-based information can be easy to use, effective and efficient, and it does not require expensive software or the services of a full time web developer.

Ease of Use: Those notebooks gathering dust on the shelf or in the office down the hall aren't adding any value. The web provides instantly accessible and up to date information. The web has many powerful, unique capabilities:

- Links. The user only need “click” a desired reference and the reference is readily displayed. No more flipping pages of outdated, cumbersome (and prone to walk away) binders!
- “Search-ability.” Users need only know a term and a “search” function within a web can display a (linked) list of all those documents (web pages) that contain the term. This can significantly reduce organizational training costs.
- Central location. A web-based system can be designed to allow the user to go to a single web site (via the internet or an intranet) to enter data and/or retrieve all documents, forms and records as well as access linked external documents. A “short cut” to the home page of the site can be placed on each computer's desktop.
- Instant, one point distribution. Once the web is updated all users have instant access to it. Additionally, the web can be configured to automatically notify users of revisions since their last visit to the site!

Additional Benefits: Web-based systems also offer:

- The capability to contain sight and sound (for example, the site may contain video and/or audio clips of instructions on how to perform tasks, training modules, etc.).
- The ability to connect directly with a database.
- Reduced marginal costs. The web allows many different users to access a site simultaneously. This reduces the need for licensed software or “seats”.

How to Make and “Host” a Web: The Internet has many sites that offer free HTML tutorials. (A few sites worth a look:

<http://hotwired.lycos.com/webmonkey/index.html>,

[http://msdn.microsoft.com/workshop/c-](http://msdn.microsoft.com/workshop/c-frame.htm?/workshop/essentials/default.asp)

[frame.htm?/workshop/essentials/default.asp](http://msdn.microsoft.com/workshop/c-frame.htm?/workshop/essentials/default.asp)) There are also many books available that can get a novice up to

speed in basic web design quickly. Modestly priced and easy to use web editing software is readily available – Microsoft's FrontPage or Macromedia's Dreamweaver are two of the most popular. There are also many companies that sell web design and creation services.

How to Make and “Host” a Web (continued): A web site can be “hosted” (maintained) on a desktop or laptop computer or, in a network environment, on a server. For hosting on a PC a web server needs to be installed. Microsoft's Personal Web Server (included with Windows 98, Windows ME and FrontPage) works nicely. In a server environment, NT 4.0 with IIS (Internet Information Server) can handle sophisticated web needs.

With the benefits and low costs afforded by using a web for information management an organization can greatly improve the usability and value of its quality management system, a “win-win” proposition for all.

About the Author: Jim Triller, CQA, CQ Mgr., has designed and implemented web-based ISO 9000 registered quality management systems as well as operational and administrative intranets for several companies. Jim is a member of the Seattle Section, ASQ. He holds an MBA from Western Washington University. He may be reached at: (206) 484-7384 or at: jim@questservicesinc.com.

Productivity and Quality Awards Announced

The University of Maryland Center for Quality and Productivity announced the U.S. Senate Productivity Award Recipients and MD Quality Awards Recipients at its Conference in October, 2000. Recipients of the U.S. Senate Productivity Awards were:

Bovis Lend Lease Bethesda, MD
Bushy Park Elementary School Glenwood, MD

Additionally, the following were recipients of the MD Quality Awards:

Silver: Middle River Aircraft Systems
Baltimore, MD

M. S. Willett, Inc.
Cockeysville, MD

Bronze: Asbury Methodist Village, Inc.
Gaithersburg, MD

Garrett Container Systems, Inc.
Accident, MD

MD Department of Natural Resources
Annapolis, MD

Raytheon Information Technology and Scientific Services
Lanham, MD.

The Sections congratulates all of these recipients on their outstanding performance.

***Six Sigma Quality:
A Revealing Example of Alarming Leadership
Decision Pattern***
by Hans Bajarria

INTRODUCTION

The last two decades have seen a host of quality initiatives and their resulting quality practices. Some of the practices are still being utilized at the lowest degree of effectiveness while most other enthusiasms have turned out to be momentary and have earned the title “buzzword.” What is becoming visible through this period is an alarming leadership pattern disguised as a quality commitment. I have made an attempt to identify this pattern. We should be interested because vital resources are wastefully utilized. What actions can be proposed to alter a culturally embedded leadership style? The studies of management style and organizational structures have only provided partial answers. I seek detailed answers in this paper. If this pattern is unexamined or unanalyzed, it will continue to repeat at yet a higher scale. Furthermore, I make practical suggestions to alter such a pattern for future encounters with new quality initiatives.

The pattern has the following sequence:

- 1) the leadership brings a new quality concept into the organization without sufficient research and consultation with middle management,
- 2) the previously learned ideas are almost forgotten and all activities are now fed into a newly learned idea,
- 3) the new idea is applied to all parts of the organization based on its premise, and not on actual results,
- 4) massive training of the new quality concept begins with no clear implementation strategy,
- 5) trainers suddenly become experts in the new idea without actual practice,
- 6) implementation is trusted to bewildered middle management, and
- 7) it is assumed that the new expected behavior is now rooted in the company.

This pattern is proving to be wasteful and does not generate a habitual response as expected. This pattern has been observed as leadership brought in SPC, Taguchi Methods, ISO 9000, QS-9000, TQM, Kaizan, Business Process Reengineering, Benchmarking, Six Sigma, and other quality “big bang scientific kits.” The author uses the Six Sigma (6σ) quality concept, one of the latest to enter the corporate collection, to exemplify the presence of this pattern.

SIX SIGMA (6σ) QUALITY CONCEPT

Motorola, Inc., USA coined the 6σ quality phrase in the late 1980s with the intent of creating dramatic improvements in performance for all key business indicators. Since that time, GE, Whirlpool, DuPont, Allied-Signal, Ford, Black and Decker, and others have embraced the 6σ quality concept. Based on published literature research on 6σ quality as well as my personal knowledge, the above leadership pattern seems to have been repeated.

First, let us understand 6σ concepts as widely taught by 6σ experts. I will offer a critique on these 6σ teachings in parts and as a whole. Then, I will discuss the elements of leadership patterns with respect to the 6σ quality initiative. Ultimately, I will offer some suggestions that will set the directions for future quality endeavors by the leaders.

SIX SIGMA CONCEPTS

SIX SIGMA AS A PERFORMANCE CONCEPT

Reducing process capability to half that of the specification range is equivalent of 6σ process capability. The 6σ capability combined with no larger than $\pm 1.5\sigma$ shift is claimed as 6σ performance resulting in no more than 3.4 PPM.

Critique:

(1) According to Gauss, Shewhart, Deming, Neave, and Wheeler; there is nothing outside 3σ . Therefore, the whole premise of the 6σ process capability is debatable. (2) The 6σ foundation becomes even shakier when the idea of a ± 1.5 sigma process target shift is associated with it. Generally, any shift should be considered as a problem. The 6σ teachings imply that up to a 1.5 sigma process target shift is allowed. Both of these arguments -- founding elements of 6σ quality -- remain uncontested by the 6σ developers. I conclude that performance reporting in terms of σ is meaningless.

SIX SIGMA AS A COLLECTION OF METHODS

The collections of statistical methods are taught to efficiently analyze output, evaluate inputs, and estimate output/input relationships. These methods are claimed to apply to a wide variety of technical and transactional problems.

Critique:

Historically, statistical methods have always been applied to understand and resolve problems. There is nothing new about the methods. Ever since Dr. Deming’s 1981 appearance in the NBC newscast “If Japan can, why can’t we,” emphasis on statistical

methods has grown considerably throughout the 1980s and continues to do so in the 1990s. Are we re-labeling these methods as 6σ methods? It is amusing that leadership has a very short memory of Dr. Deming's messages and quality history, in general.

SIX SIGMA AS A STRATEGY

It is claimed that 6σ is much more than a mere statistical concept. The 6σ strategy ties successfully solved problems with financial returns. Leadership supports the idea wholeheartedly because they can now talk about quality in financial terms.

Critique:

Let us examine how they arrive at financial claims. What leadership does not grasp are the micro details of how results are reported. Let us look at one example.

A company makes an electronic board assembly as an end product. The assembly process consists of inserting components into the circuit board and \Rightarrow

soldering them in a wave soldering process. The wave soldering process produces 90% good boards and 10% boards requiring a minor repair. In other words, the first pass yield is 90%.

This company starts the 6σ initiative. As a first step, the leadership decides to report all yield problems in terms of PPM. The electronic board assembly problem of 10% yield loss is equivalent to 100,000 PPM or 1.28σ process. A black belt (6σ methods expert) and his team are assigned to tackle this problem. First, the team decides to focus on reporting accuracy of yield. The initial investigation reveals that when the board is rejected for nonconformance, the whole board does not require repair. Only a few joints on the board require repair. Based on this observation, the team agrees to report process output in terms of the number of joints they produce and the number of joints they repair. Table 1 illustrates what happened as a result of the change in the reporting scheme.

Table 1 – Reporting Change from Percent Loss to PPM Loss

Items	Reporting scheme based on number of boards	Reporting scheme based on number of joints	Note
Production per day	1,000 boards	2,000,000 joints	2,000 joints/board
Loss per day	100 boards or 10%	400 joints	4 joints per board requiring touch up
PPM	100,000	200	
σ level	1.28σ level	3.54σ level	

The team claims success simply based on this reporting change and calculates annualized savings as follows:

Production/day = 1,000 boards
 Number of production days/year = 240
 Savings/1 PPM reduction = \$0.01
 Savings/day = $(100,000 - 200) \times \$0.01 = \998
 Annualized savings = $\$998 \times 240 = \$239,520$

Based on this proven success, the black belt has now earned the title of master black belt, even though no real change had occurred in process improvement. Company began to use this success story -- going from a 1.28σ level to a 3.54σ level -- to promote 6σ efforts. The company builds a false sense of confidence in the employees even though the employees have not demonstrated any skills in the use of statistical methods to improve the process. This example in the strictest sense cannot be presented in a verifiable format simply as a courtesy to protect the privacy of all concerned. However, I will present two other examples, which are a matter of public record and are easily verifiable.

You can either deflate the numerator or inflate the denominator of the improvement index to show progress without actually causing real progress.

Example 1 comes from a comparison between the safety of air travel versus the safety of automobile travel. It is often quoted that airline travel is safer than automobile travel. Results are reported as incidents per mile flown versus incidents per mile driven. We examine this claim.

Let us say there are 10 automobile trips taken, each trip averaging 10 miles. Let us also say, one out of 10 automobile gets into an accident. There are at least two ways to report this. An accident is likely to occur in one out of 10 trip or one out 100 of miles driven.

Now, let us say there are 10 plane trips taken, each trip averaging 500 miles. Let us also say, one out of 10 flight had a rough landing. There are at least two ways to report this. A mishap is likely to occur in one out of 10 flight or one out of 5000 miles flown.

If we first look at the index of comparison where the denominator is number of trips, the

indexes look exactly alike for automobile and plane trips. However, if we look at the second index where the denominator is the number of miles, the flying safety index looks better than the riding safety index.

Why do airlines report the second index? This is called inflating the denominator.

You can always show improvement without actually causing any improvement at all.

Example 2 comes from how airlines report on-time arrivals. The Detroit, Michigan to Cleveland, Ohio flights used to be about 35 minutes. Now, the same flights are scheduled to be about 50 minutes. Airlines basically padded 15 more minutes in the schedules to allow for all different types of inefficiencies. They did not improve a thing. It is adding insult to injury to hear them announcing on-time arrivals.

In our electronic board assembly example, the denominator was heavily inflated, the numerator was equally heavily deflated, and no improvement was caused. What do you think about the reporting of 6σ results and the associated financial claims within your company?

SIX SIGMA AS A BREAKTHROUGH STRATEGY

Six sigma is described as a breakthrough strategy.

Critique:

A breakthrough is defined as a step function when we make an order of magnitude difference compared with the status quo. This breakthrough strategy was first described by Dr. Juran and was well documented in the book titled, *Managerial Breakthrough* (Juran, 1964, page 7). Was Dr. Juran 30 years ahead of his time? Even before Juran, the idea of breakthrough was captured by Dr. Shewhart and Dr. Deming's PDCA and SDCA cycles. The 6σ quality strategy is claimed to be original in its thought and action. Is it really? In fact, 6σ quality strategy takes a step backward with overemphasis on variation reduction without explicitly talking about instability. Are we forgetting Dr. Shewhart's message, "instability before variation"? The 6σ strategy also de-emphasizes target problems by including $\pm 1.5\sigma$

shift in its description. Is leadership uninformed about prior developments in quality science?

SIX SIGMA AS A PHILOSOPHY

The 6σ quality is labeled as a philosophy of continual improvement and continual upstreaming.

Critique:

We have seen the Dr. Deming era (1980 onwards) where we formally started talking about continual improvement. Don Peterson, Ford Chairman during the early 1980s, while accepting the Deming Medal at the 54th Annual Quality Congress on May 8, 2000 in Indianapolis said, "Everybody talked about improvement, but Dr. Deming came with the action plan." Why is the 6σ philosophy any different than what Dr. Deming had to offer? In fact, the emphasis we need today is so much different than what the 6σ philosophy has to offer. The following are some of the emerging elements of the newly needed approach: 1) emphasize quality integration over quality assurance, (2) emphasize vertical systems over horizontal systems, (3) emphasize training while solving, and (4) guide technology introduction based on statistical evidence. Lack of these elements within companies keep them ill-prepared to benefit from the rate of change of technology, the Internet, and worldwide open markets. In fact, these external factors could become the very cause of demise by diverting critical resources into ill execution of 6σ .

CRITIQUE OF 6σ AS A WHOLE

6σ as a whole hit the industries hungry to solve problems. The leadership was attracted to use this tool primarily to motivate the workforce. Some good results may have come which may be purely incidental and due to the Hawthorne effect rather than to the application of statistical methods. As we examine the 6σ concept in detail, calculations leading to 3.4 PPM appear technically unjustified. Even the teachings and uses of statistical methods seem to be grossly inefficient because they focus on mechanistic details rather than real problems. Actual problem-solving is a series of events separated by time intervals. During an event,

we review where we are and strategize where do we go next. We also plan out execution steps necessary to get there. During a time interval, these steps are taken leading to the next event. We continue this cycle, until the problem is

resolved. The 6σ teachings lulled leadership in to believing that solving a problem is a one-shot proposition. Does leadership play on an 18-par golf course or a 72-par golf course?

Table 2 – Elements of Leadership Pattern with 6σ Initiative

Leadership Element	Description	Essence
1	The leadership in each company brought a 6σ concept into the organization without consulting with middle management. The middle management never got a chance to scrutinize this proposition. Even if the middle management was involved in the discussion, they probably chose to go along rather than argue with the leadership. No comparative evaluation was made of any previously existing quality and operation improvement efforts with 6σ methods.	Leadership is forgetful of quality history.
2	The middle management is simply managing 6σ by keeping track of soft measures such as how many black belts are trained and how many 6σ projects are being worked on, just the same way they managed SPC and TQM. Since actual problems cannot be resolved so quickly, it is difficult to report the progress in hard terms. Therefore, the middle management chooses to report the progress in soft terms. Besides, middle management continuously struggles with integrating old quality initiatives with the new quality initiatives.	Middle management is not seen as advisors to the leaders in the matter of quality or otherwise. They are supposed to follow the schemes and pass it downwards.
3	In companies that have embraced the 6σ quality concept, all projects are now being titled as 6σ projects. In the past the very same projects may have been called SPC projects, TQM projects, ERP projects, DOE projects, etc. One large company claims to have 55,000 6σ projects.	Leadership does not understand enough micro quality details to challenge project titles.
4	6σ concept is applied to all parts of the company without solid proof that it delivers the benefits as practiced. Many Hawthorne effect- related successes are claimed as 6σ successes.	Leadership prefers horizontal systems, which saves them from personal involvement.
5	A large number of personnel are being trained in 6σ while implementation is starving. One large company claims to have 4,000 black belts. Most of the progress is being reported in terms of how many black belts they have rather than how many problems they have resolved.	Leadership gets used to soft measures being reported.
6	The training personnel are not really experienced in teaching 6σ methods requiring multi-discipline expertise. A large number of training personnel have statistical background. They lack core engineering expertise to translate the real problems into statistical problem conditions. Trainers largely depend on engineers for a fundamental knowledge of physical sciences required to list investigative variables – a crucial step in applying 6σ methods. Also, 6σ trainers are not in touch with the latest technology required to convert statistically derived soft solutions to technology-dependent hard solutions.	Leadership considers quality training the same as learning a trade like changing oil in an automobile engine.

7	The leadership in most companies assumes that SPC, TQM, and 6σ are integrated into their organizations. The evidence, however, suggests otherwise. In fact, these concepts are integrated in many companies at the lowest level of effectiveness.	Leadership has caused most of the quality concepts to be feebly present in the organization.
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Why did leadership choose to adopt 6σ and totally ignore the history of quality improvement? They could have adapted a subset of 6σ. This is not a single isolated incident of an ill-conceived leadership commitment. It has been a leadership culture for at least two decades that is becoming visible with the introduction of each new “silver quality bullet.” Not only is it disturbing to see this pattern but it is appalling. In Table 2, we breakdown the underlying leadership patterns

into manageable elements to find some answers. The 6σ is not the only example that has exhibited this pattern. Execution of Statistical Process Control (SPC) provides another example. In Table 3, we go further back in the quality history and examine how SPC initiative was treated.

SPC EXAMPLE

A heavy emphasis was placed on Statistical Process Control in the early 1980s presumably to fight the Japanese competition.

Table 3 – Elements of Leadership Pattern with SPC Initiative

Element	Description	Essence
1	Leadership never reviewed failures of SPC introduction at least six times in history starting from early 1950s.	Leadership is forgetful of quality history.
2	The middle management was not adequately consulted with respect to the pluses and minuses of the SPC idea.	Middle management is not seen as advisors to the leaders in the matter of quality or otherwise. They are supposed to follow the schemes and pass it downwards.
3	In companies that embraced the SPC concept, all projects were being titled as SPC projects. In the past the very same projects were called quality circles projects, productivity improvement projects, waste reduction projects, etc. The leadership never applied the SPC ideas to the indexes that they directly control. For example, it is almost a rare occurrence to see forecasting performance of a company on a control chart. Have you ever wondered why the deviation between actual and forecast values is not plotted on a control chart?	Leadership does not understand enough micro details of quality science to challenge project titles.
4	The SPC concept was applied to all parts of the company without solid proof that it is required everywhere. Many Hawthorne effects related successes were claimed as SPC successes. SPC is now a horizontal system in enterprises that still practice it.	Leadership prefers horizontal systems, which saves them from personal involvement.
5	A large number of personnel were being trained in SPC while implementation was extremely starving. The chairman of one large company claimed that they had trained 250,000 people in SPC. Even one of the Harvard Business Review articles claimed that SPC was well in place. The progress was being measured in terms of how many charts they had and how many people they had trained.	Leadership gets used to soft measures being reported.

6	The training personnel were not really experienced in teaching SPC methods requiring multi-discipline expertise. A large number of training personnel had statistical background. They lacked core engineering expertise to translate the real problems into statistical problem conditions. Many trainers even mistranslated what SPC meant. They focused on control of input variables. According to Dr. Shewhart, the developer of the SPC idea, SPC has always meant viewing output on control charts.	Leadership considers quality training the same as learning a trade like changing oil in an automobile engine.
7	The leadership in most companies assumed that SPC had taken root in their organizations. The evidence, however, suggests otherwise. Today, SPC as used in most companies is at the lowest level of effectiveness.	Leadership has caused most of the quality concepts to be feebly present in the organization.

My observations in the last twenty years about how quality ideas are introduced into the organization reveal an alarming leadership pattern. I have attempted to make this pattern visible in Table 4 along with some suggestions for the future introduction of new quality initiatives.

Table 4 – Future Directions versus Historical Leadership Pattern

Leadership Element	Historical Leadership Pattern	Future Directions for Leadership Pattern
1	Leadership is forgetful of quality history.	Review quality history when a new quality idea shows up. Integrate superior elements of a new idea with existing practices.
2	Middle management is not seen as advisors to the leaders in the matter of quality or otherwise. They are supposed to follow the schemes and pass them downwards.	Use middle management as advisors to discuss pros and cons of a new quality idea. If some elements of the new quality idea are selected, further talk about integration issues can proceed.
3	Leadership does not understand enough micro details of quality science to challenge project titles.	Review all projects under all improvement programs. Duplicity of project titles will become obvious, and therefore, can be eliminated.
4	Leadership prefers horizontal systems, which saves them from personal involvement.	Get personally involved. The rate of change in the world demands vertical systems. Horizontal systems of yesterday are out-of-date in a new economic system brought about by an e-world. They can no longer be used for driving vertical systems. In an emerging scenario, the vertical systems are driving the horizontal systems.
5	Leadership gets used to soft measures being reported.	Measure progress in hard terms.
6	Leadership considers quality training the same as learning a trade like changing oil in an automobile engine.	Treat quality as a strategy, as a science, and as a system. These aspects of quality are learned with respect to time.
7	Leadership has caused most of the quality concepts to be feebly present in the organization.	Conduct periodical validity reviews to examine the effectiveness old quality ideas in light of the newer economics.

EPILOGUE

I wanted to share my personal knowledge and experiences to identify an alarming leadership pattern underlying the quality initiatives of the last two decades. I have made this pattern visible by using two examples: 1) 6σ quality – an encounter of the late 1990s and 2) Statistical Process Control (SPC) – an encounter of the early 1980s. The reason for choosing these two examples at the extreme of the chronological spectrum was to show that we are dealing with the pattern and not with isolated occurrences.

This leadership pattern is appalling especially since it has been repeated over two decades and consumed vital resources. Other economic gains have been drained by the enterprises to offset ill execution of new quality initiatives. We have desired quality commitment in the form of leadership participation; instead we have been seeing a “cow boy” actions from leaders. I have made helpful suggestions to alter what has been culturally embedded in leadership practices and offer fresh alternatives. The leadership actions along the proposed path will deliver the potential benefits claimed by each new quality initiative.

Dr. Hans J. Bajaria, president of Multiface, Inc. is one of industry's leading quality strategists. Formerly, he was an associate professor of mechanical engineering at Lawrence Technological University in Southfield, Michigan. Dr. Bajaria has held number of positions with major American Corporations, including Rockwell International and Ford Motor Company. A Fellow of ASQ as well as a CQE, CQA, CRE and CQ Manager, he has received the Society's Grant Award and the Edwards Medal. Dr. Bajaria may be contacted at Multiface, Inc., 6721 Merriman Road, Garden City, MI 48135 -1956; 734-421-6330; Fax: 734-421-1142 Email: hbajaria@aol.com; Web site: www.multiface.com

A quality guru is one whose approach to quality within business has had lasting impact.

Divisions Corner

The **Customer Supplier Division (CSD)** is a team of professionals committed to advancing quality in customer-supplier relations. Being a member connects you with a peer network of over 5,000 individuals around the globe. The CSD provides a venue where you can network with people who do similar work and have a common interest in performance excellence. The information shared is practical and easily transferable to your workplace. Through CSD you will have the opportunity to share expertise and learn from individuals at leading organizations that are transforming customer-supplier relations.

The **vision** of CSD is "To be the recognized authority in building effective customer and supplier

relationships." Their **mission** is "To continually research, develop and communicate the quality concepts, body of knowledge and technologies to improve supplier performance and increase customer satisfaction."

CSD's newsletter, *The Partnership News*, is the primary link between the Division and its members. In each issue you will find a variety of useful articles like "**Creating a Customer Satisfying System**," "**Quality of Relationships**," and "**Focusing on Customer Satisfaction**." Distributed quarterly, *The Partnership News* is a great place to find activities, events, and volunteer opportunities that interest you. *The Partnership News* also includes a helpful feature called Tech Journal. This easy-to-reference pullout section presents a sample of what the annual conference has to offer Division members. The network of people you become affiliated with when you join CSD is another important benefit. The talents and expertise of many individuals are united to face challenges, exchange insights, and share successes. This camaraderie creates new knowledge and solutions and is what makes CSD membership a positive experience.

Get involved. There are many opportunities available if you are looking to take a more active role in your Division. You can:

- Write contents for newsletters and publications
- Attend courses, conferences and workshops
- Facilitate learning at Division functions
- Hold volunteer leadership position

Reminder

If any of your information on file with ASQ Headquarters in Milwaukee changes, you should contact them to make corrections. This would include your address, telephone number, fax number and e-mail. With an incorrect address, anything sent to you from the Society, the Section or any Division of which you are a member will be delayed and possibly lost. Likewise, incorrect faxes and e-mails make it more difficult to provide last minute Section reminders of meeting. To update any of your information, call ASQ at 1-800-248-1946.

If you're not customer driven, you're on the road to extinction.

What is quality other than providing customers with what they want, when they want it, with a reliable after sales service, at an agreeable price? That was true in the 1920's as it is today, so why should 2098 be any different?

Linda Campbell, CEO, UKAS, U. K.

Baltimore Science Fair 2001

The Section will again participate in judging exhibits for this year's Baltimore Science Fair. The event, to be held in the spring, will have the judging on Saturday and the awards ceremony on Sunday. Judging will occur both on individual and team application of statistics to their projects and for teamwork.. It will be held in the Towson University Student Union. If you would be interested in participating as a judge for the Section, contact Kevin Gilson at 410-864-2428 or kgilson@sierramilitary.com. Additionally, we need the donation of award materials from our member companies. These can be items with or without their company logo. This is a good opportunity to see what interesting topics the young minds in the Baltimore area schools can address.

ASQ - Baltimore Section 0502

THE VISION: *To be the Baltimore Metropolitan Area recognized resource on issues related to Quality.*

OUR MISSION: *To create value for our members and business professionals at large by providing opportunities for professional development, serving as a resource for managing quality in the Maryland community.*

Certification Exam Schedule

Examination	Application Date	Exam Date
CQE/CQA/ CSQE/CQIA	April 6, 2001	June 2, 2001
CQT/CRE/CMI/ HACCP/Quality Manager	August 24, 2001	October 20, 2001
CQE/CQA/ CSQE/CQIA	October 5, 2001	December 1, 2001

Special Thank You

With the continuing increase in the number of those sitting to take the various ASQ certification examinations, it is an impossible job for one person to proctor the exam site. For the October 2000 set of CRE, CQT, CMI and Quality Manager examinations, the Section was fortunate to have two of our certified members assist Section Chief Proctor **Maria Burness**.

Special thanks are given to **Michelle Bandy**, CQA, Becton Dickinson, and **Jim Elliott**, for serving as assistant proctors for this exam series. Additionally, during the December set of CQA, CQE and CSQE, Michelle again served as an assistant proctor along with **Jina Robbins**, CQA, CSQE, ARINC.

If you would like to volunteer as an assistant proctor during one or more of the exam periods in March, June, October or December and have at least one ASQ certification, you should call Maria at 410-229-8801. **PLEASE NOTE.** You are ineligible to proctor a specific exam the year before and the year after you take that exam.

Duties include signing people in, handing out exams, monitoring the examinees during the test, and collecting exams. Approximately four hours of your time earns 0.5 RU. At least two assistant proctors are needed to support the number of examinees. The exams are given in Hunt Valley, across from the Hunt Valley Mall in the Executive Plaza on McCormick Road right off of Shawan Road exit off I-83.

Quality is a value judgment made at a specific junction in time

Next Newsletter Due Date	March 15, 2001
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