Center for Quality of Management Journal

Reprint No. RP11800

Special Issue

In Memory of Thomas H. Lee (1923-2001)

About This Issue — **Page 2**
David Walden

Biography of Thomas H. Lee — **Page 3**

Management Gurus and Educators — **Page 13**
Russell L. Ackoff

Remembering Tom Lee with an Image LP — **Page 15**
From the Louisville Chapter

Creation and Evolution of the CQM — **Page 17**
David Walden

Report on G. Clotaire Rapaille's Syndicated Study of Leadership — **Page 27**
Toby Woll

Insights from the Leadership Study Group (1997-2000) — **Page 35**
Christine Duvivier and Toby Woll

A Few Thoughts on Executive Competency Convergence — **Page 67**
Stephen P. Kelner, Jr.

Implementing a Value-Added ISO9000 Program Using the 7 Infrastructures for Mobilizing Change — **Page 73**
James Stith

Mapping Six Sigma to the CQM System of Tools — **Page 83**
David Hallowell

Holistic Approach to Innovation Management — **Page 90**
Thomas H. Lee and Val Livada

Following Tom: My Journey of Enlightenment — **Page 107**
Shoji Shiba with Lois Slavin

Volume 10, Number 1 **Summer 2001**

© Copyright 2001 The Center for Quality of Management, Inc. Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. To copy otherwise, to republish, to post to servers, or to redistribute to lists requires prior specific permission and/or a fee. Copying is by permission of The Center for Quality of Management, Inc. • One Alewife Center, Suite 450 • Cambridge, Massachusetts 02140 USA Telephone: (617) 873-8950 • Email: publications@cqm.org The Center for Quality of Management Authors retain rights for re-publication of their articles.

ISSN: 1072-5296

Creation and Evolution of the CQM

by David Walden

Tom Lee supported and encouraged the idea of starting the Center for Quality Management Journal, although we waited two years after CQM's founding before we attempted the first issue. In 1992 Tom felt the time was right and we formed an editorial board, began soliciting papers. Robert Wood, Trish McKinnon, Julie Fucarile, and I edited and produced the first issue in Autumn 1992. The first paper in that first issue was entitled "What is the Center for Quality Management?" by Tom Lee and me.

By 1995 Tom had initiated a change in name of the CQM, from Center for Quality Management to Center for Quality of *Management, to emphasize the Center's concern with the broader issue of quality of management rather than only management of quality. In the Spring 1995 issue of this journal, Tom and Toby Woll wrote an update paper on the CQM entitled "Creating the New Center for Quality* of *Management."*

I am using the opportunity of this special issue to update Tom's and my original paper to describe the CQM and its activities through 2000.

Dave Walden first met Tom Lee when Tom organized the CQM Design Team in 1990 and Dave was assigned by founding member Bolt Beranek and Newman Inc. to be a member of the team. They became close friends and worked together on many CQM activities over the next decade. Dave feels he owes the current direction of his life to Tom's support and intellectual exchange with Tom.

Initiation of the CQM

In early 1990, seven Boston-area companies formed the Center for Quality Management to learn from and aid each other in their TQM implementations. The companies that formed the CQM had characteristics typical of companies that decided to implement TQM. With few exceptions, they were all suffering from the economic slowdown that began in the late 1980s. Also, the CEOs of several of the companies had personally visited Japan and observed its business practices. At least one of the CEOs had lived in Japan, most had divisions in Japan and traveled to Japan frequently, and some had studied Japan's business practices through trade association committees on international competitiveness. Furthermore, several of these CEOs were regularly in contact with each other through existing business associations, such as the Massachusetts High Technology Council. Thus, business crisis and awareness of TQM as practiced in Japan motivated these CEOs to the practice of TQM in their companies.

In November 1989, Professor Shiba gave a seminar at MIT that several of the CEOs attended. Professor Tom Lee of MIT, who had been Shiba's colleague at the International Institute for the Application of Systems Analysis in Vienna in the 1980s, arranged for Professor Shiba to give the seminar.

As a result of the problems they were having at their companies, their knowledge of Japan and TQM, and Professor Shiba's introduction to TQM, the following seven Boston-area companies decided to form the Center for Quality Management:

- Analog Devices, Inc.
- Bolt Beranek and Newman Inc.
- Bose Corporation
- Digital Equipment Corporation
- GE Aircraft Engine Division
- Polaroid Corporation
- Teradyne, Inc.

Ray Stata of Analog Devices was chairman of the board, Tom Lee of MIT (on a part-time, pro bono basis) was president, and the board of directors consisted of the CEOs or other senior managers of the founding companies.[1]

The CQM was formed on the basis of a three-element model for societal diffusion, as expressed in its 1989 mission statement:

> *The mission of the Center for Quality Management is to accelerate understanding and implementation of quality management concepts and methods by creating a network of like-minded organizations to share knowledge and experience. This will require a common language and a shared understanding of the basic methodologies to define problems and design solutions. In the broadest sense, the long-term objective of the Center is to promote organizational and societal learning about how to improve the performance of human systems.*

Having decided to form the CQM, the founding CEOs needed a plan for the CQM's functions and operations, and they needed a mutual understanding of what TQM was. To this end, they undertook a five-week design study[2] in March and April of 1990. This design study was led by Shoji Shiba. All of the participants were senior line managers or senior quality staff members from the CQM companies, except three participants from MIT. The plan resulting from the CQM design study led to a committee structure, as shown in Figure 1. The intention was to have a lean staff and active committee structure (à la the approach of the Japanese Union of Scientists and Engineers), to put the know-how in the companies and not in the CQM staff.

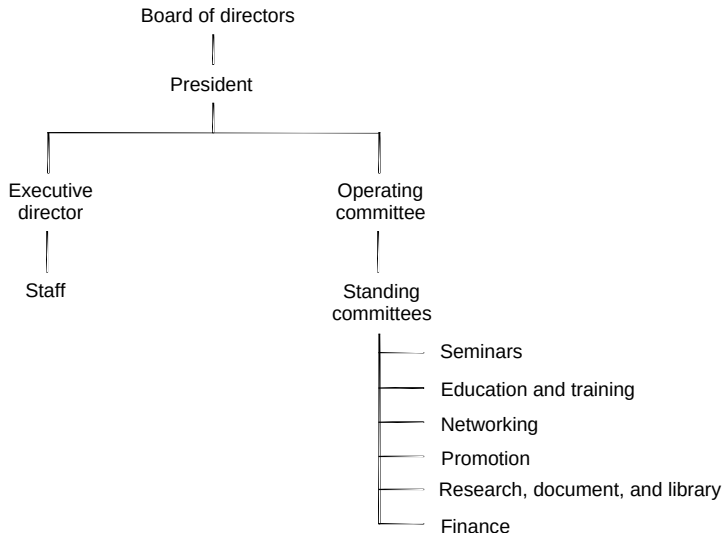

Figure 1. CQM Committee Structure of 1990.

After the design study ended, it took a few more weeks for the board to read the plan and approve it. Although a number of committees were proposed, not all of them became active in 1990. Activities that did take place in 1990 included the following:

- The seminar committee was active, sponsoring seminars by Florida Power & Light, Xerox, Motorola, and Corning.
- The research committee commissioned translation of the book TQM for Technical Groups.[3]
- Shoji Shiba offered several one-day courses called CEO Introduction to TQM.
- The first CQM tool manuals were drafted.

1. In essence, Tom Lee, Ray Stata, and Shoji Shiba were the individual co-founders of the CQM.

2. Shoji Shiba and David Walden, *Four Practical Revolutions in Management* (Portland, Oregon: Productivity Press, 2001) 379-385.

3. Kiyoshi Uchimaru, Susumu Okamoto, and Bunteru Kurahara, *TQM for Technical Groups: Total Quality Principles for Product Development* (Portland, Oregon: Productivity Press, 1993).

- The six-day course, TQM for Senior Managers: Planning and Implementation, was offered in two parallel sessions in October, November, and December to 48 executives of CQM companies.
- The 1991 plan was prepared, its starting point being PDCA on 1990 activities.

The six-day course on TQM for senior managers was a particularly noteworthy achievement of 1990. The course, developed by Shoji Shiba with help from the CQM design team, was also taught by Shoji Shiba. Several CEOs and their direct reports attended the course, which included much group work with TQM tools and a number of case studies presented by CEOs, senior managers, and members of the design team. Two members of the design team took notes on the entire six days and converted them into transparencies and draft text that could be used again by other presenters and as the basis for a book. A key concept of the course was "no delegation of improvement," which was demonstrated in many ways; for example, the CEOs themselves presented case studies.

Key Elements of the CQM Approach

Organizations, not individuals, are members of the CQM. It is not a professional society. The first criterion for membership in the CQM is active participation of the most senior manager (CEO or CEO-equivalent) who must espouse commitment to leading organizational change and improvement efforts in his or her organization. The other criterion for membership is that the CQM member is willing to share actual case studies, good and bad. Without top management leadership, organizational change will not happen; without efforts to change and improve and willingness to share the results, an organization will have nothing to share and, therefore, will not be able to participate in the CQM's mutual learning efforts.

Another key element of the CQM approach is that the CQM staff should be primarily for support and coordination of CQM members and, ideally, the intellectual leadership of the CQM should reside in member companies. This is important because extensive organizational change and improvement methods require a culture change. Thus, member companies must change how they think about and practice organizational improvement, and not primarily depend on outside consultants and outsourced training.

Two other key elements of the CQM approach are the adoption of a common language and baseline approach to facilitate shared learning opportunites (in particular, the vocabulary and methods of the 6-day course and the book Four Practical Revolutions in Management were selected), and members provide an "improvement culture" to each other and society at large. While using the common language for communication and comparison, many members do not use this common language within their own companies or they may adapt it to their own organizations.

1991-1999 Activities

The first year, 1990, was a year of organization. The second year, 1991, was a year of orientation, deciding what was really important to do and getting it started.

As of 1991, the CQM had several long-term aspirations:

- To serve CQM company facilities outside of New England (California, Europe, Japan, and so forth)
- To participate in development of a national quality culture in the United States
- To expand the CQM model or help others copy CQM methods, and
- To develop improved, advanced methods of TQM, moving beyond what was copied from Japan ca. 1990.

By the third year, 1992, the challenge was to figure out how to address demands for growth:

- How to select new member companies who would actively participate
- How to provide services to the expanded membership while still depending on the committee structure
- How to expand the staff without diminishing the intellectual leadership of the companies

In the years between 1992 and now, each of these aspirations and challenges has been substantially met. The following subsections detail the path the CQM followed.

Expansion

The CQM started in the Boston area with seven founding member companies. By 1991, other Boston area companies had already heard about the CQM and its approaches to mutual learning for the benefit of all and wanted to join, bringing the membership to 24 companies by the end of 1991. In addition, some Boston-area members of the CQM were divisions of companies located in other locations (for example, a division of HP located near Boston), and other Boston-area members had divisions in other locations (for instance, Analog Devices had a division in Silicon Valley). Thus, by January 1994, a chapter of the CQM had been established in Silicon Valley, with its own chapter board of directors made up of member company CEOs and a local chapter director (a member of the CQM staff located locally to facilitate local CQM activities). The Silicon Valley chapter had ten or so initial members.

As CEOs in other geographic regions heard about the CQM, other groups of CEOs wanted their companies to be part of the CQM. In this

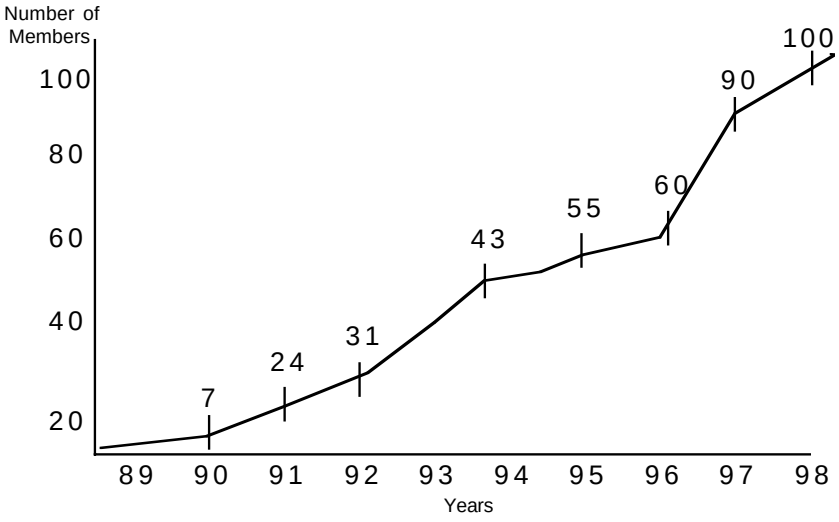

Figure 2. Growth of CQM Membership.

way, CQM chapters were established in Louisville, Cincinnati, Western Europe, and Finland. By 1999, the CQM had over 115 members, 15 university affiliates, and 14 associate members. While the CQM does not actively seek expansion to other geographic regions, companies in new regions may become interested causing the CQM to expand further. In 2000-2001 creation of a chapter in Ireland is underway, and ground work has been done for a chapter in China.

Management

Within a couple of years of its founding, the committee system originally planned by the CQM Design Team (and used by each new chapter) ceased to be satisfactory for the CQM's daily management. Thus, a paid, full-time CQM executive director (Toby Woll) was hired to manage the CQM central office support staff. Over time, the CQM staff had grown to about to about 20 people, including the chapter directors. As of 1998, founding president (and pro-bono part-time employee) Tom Lee retired, and a new CQM president, Gary Burchill, was appointed to be a paid full-time president; he also handles the job of executive director, with assistance from an operations manager (Eric Bergemann).

Focus

From the beginning, one of the CQM's aspirations was to develop improved, advanced methods, moving beyond what was copied from Japanese TQM.

The CQM companies initially copied Japan for efficiency's sake (of course, they had to adapt what they learned from Japan to the U.S. business culture). The CQM members were also reluctant to do too much at one time: learning and beginning to practice the Japanese version of TQM was enough effort for most.

However, the CQM board and staff always understood there was more to organizational change and improvement than the Japanese version of TQM as practiced in the late 1980s and early 1990s. In particular, the CQM companies had the opportunity (and often necessity) to learn and develop improved methods to integrate them with their existing practice of TQM.

In 1991-1993, CQM member companies worked with Gary Burchill to develop Concept Engineering.[4] By 1992, the CQM began an interchange with Russell Ackoff and his colleagues to learn the methods of Idealized Design.[5] In the years that followed, other methods were integrated with the methods CQM members were already using (discussed below in the Research subsection). Thus, in 1994, the CQM formally changed its name from Center for Quality Management to Center for Quality of Management. The name change clarified that the CQM and its members were interested in more than the narrow "management of quality" using TQM as the means — they were interested broadly in the "quality of management" in their companies.

From the beginning, the spectrum of CQM activities have fallen into three categories:

- Education
- Networking (and publications)
- Research

Activities in these three areas are described in the following three subsections.

4. PhD thesis by Gary Burchill, *Concept Engineering: An Investigation of TIME vs. MARKET Orientation in Product Concept Development* (Cambridge, MA: Massachusetts Institute of Technology, 1993).

5. See special issue on Design and Planning in Organizations, *Center for Quality of Management Journal*, Vol. 5, No. 1 (Spring 1996).

Education

In 1990, Shoji Shiba with assistance from members of the CQM Design Team offered two instances of a 6-day course on TQM for senior managers. In 1991, the 6-day course on TQM for senior managers was offered three more times to 72 more CEOs and senior managers. The courses were taught by CEOs and senior managers who had taken the course with Professor Shiba, to show executive leadership in TQM and to learn the material better. The executives also took the material into their own companies and integrated it with their existing internal activities in the context of their corporate culture.

Also, in 1991, skill courses in the Language Processing Method[6] and the 7-Step Problem Solving Method[7] were offered, based on initial versions developed in member companies (with Shoji Shiba's guidance).

Since 1991, a variety of other courses have been added to the CQM portfolio. Many of these were developed in member companies and contributed to the CQM. Some were based on the results of CQM research efforts, again primarily "staffed" by people from member companies. One or two have been jointly developed in alliances with other consortia or consultants.

A "roadmap" of available CQM courses is shown in Figure 3.

6. *Language Processing*, a manual published by the Center for Quality of Management (Cambridge, MA, 1997).

7. *7-Step Problem Solving Method*, a manual published by the Center for Quality of Managment (Cambridge, MA, 1997).

8. CQM staff and member companies refer to societal networking and mutual learning interchangably.

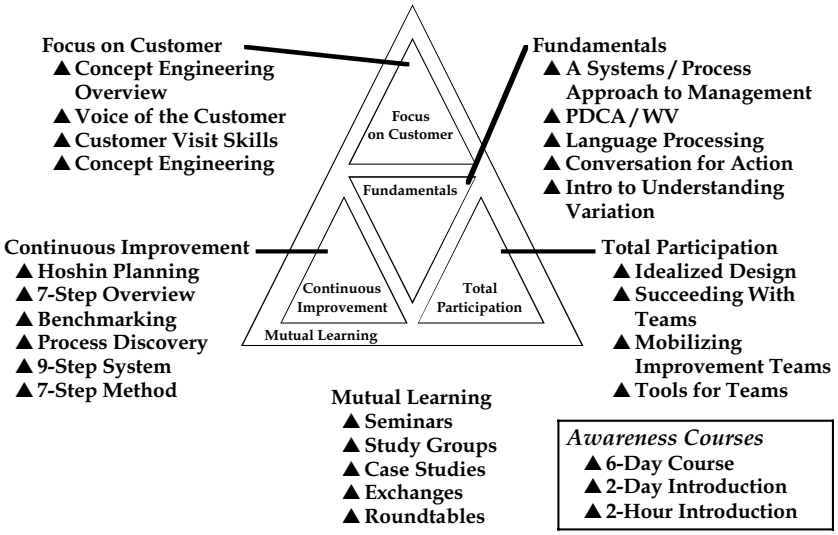

Figure 3. CQM Curriculum Roadmap.

Networking (and publications)

The CQM and its chapters and member organizations do networking in many ways:

- Each year since 1991, the CQM has held a seminar series with speakers reporting on the change and improvement practices in world-class organizations.
- Chapters have regular roundtable meetings on specific topics, by functional areas, and so on. Most common are CEO roundtables and chief change or quality officer roundtables.
- Members contribute courses they have developed to the CQM for use by other members.

- Organizations exchange executive visits, executives teach in CQM courses offered locally, trainers and facilitators from one company attend train-the-trainer courses in another company, and upon occasion a delegation of visitors from one CQM chapter visits companies in another chapter.
- People from one member company participate on improvement teams in another member company to see and learn a new method in practice, as is done for example within Kaizen Events in CQM's Cincinnati Chapter.
- Books, manuals, and the *Center for Quality of Management Journal* have been published to make methods and learning available in traditional printed format.
- Case studies, white papers, lists of resources, and notices of events are "published" either on the CQM's public web site or on its members-only web site.

Research

From the beginning, people from CQM member companies have worked together to learn, exchange, and develop new methods to add to the set of CQM methods. Guiding these efforts have been several principles:

- Look for weaknesses in member companies' current management systems.
- Don't be bound to a single "school" or discipline. [9]
- Integrate and synthesize best methods into a system or step-by-step process (not just a set of tasks) that can be taught, practiced, and improved as more is learned.
- Do immediate field trials in member companies to get real-life experience.
- Keep repeating the improvement cycle, to recover from aspects of the initial process that didn't work the first time, to build on increased understanding, and to deal with new circumstances.

Since 1990, various combinations of CQM members have worked in a variety of areas. In each case, a few to a dozen people periodically met, studied, and synthesized for periods ranging from a few months to a year or more. Areas of CQM research, synthesis, practice, and improvement since 1991 have included:

- Development of Concept Engineering for finding the latent needs of customers and users — extensively documented and widely taught and practiced
- A study of best practices of new product development — resulted in a seminar at which representatives of various CQM members presented their best practices
- Development, in collaboration with Russell Ackoff and his colleagues, of a step-by-step approach to Idealized Design — applied in several CQM member companies
- A study of the methods of culture change — conclusions never published
- A study of how the methods of TQM can be applied in service organizations — resulted in a study report[10] and use of the vocabulary of three different types of processes[11] common to all kinds of organizations
- A survey of Clotaire Rapaille's concepts of Cultural Archetypes — concluded with a seminar with presenters from four non-CQM companies describing their use of Rapaille's methods; see also Toby Woll's article in this issue (page 27)

9. At various times, the CQM has drawn on the following thinkers and methods: Russell Ackoff and Interactive Management, Chris Argyris and Action Science, Deming's version of TQM, Fernando Flores and the Language/Action Perspective, Eli Goldratt and Theory of Constraints, Peter Senge and his Five Disciplines, and many other thinkers and experts from many other areas and methods.

10. Victor Aramati and Toby Woll, "TQM in Services: A Report by the CQM Study Group," *Center for Quality of Management Journal*, Vol. 6, No. 2 (Fall, 1997) 5-25.

11. Operational, moment-of-truth, and innovative processes.

- Development of the Conversation for Action (or Personal PDCA) methods to find shared concerns, make keepable commitments and build trusting relationships — taught in several CQM courses
- A survey of System Dynamics — concluded with an understanding of reasonable roles for system archetypes, causal loops, and simulation in the tool kit of methods of CQM members
- A survey of leadership — resulted in a seminar presentation, a set of working notes on CQM's member-only Web site, and a paper summarizing the survey compiled by Christine Duviver and Toby Woll that appears in this issue (page 35)
- A survey of Strategic Planning — resulted in a seminar presentation and a set of working notes on CQM's member-only Web site
- A survey of Cycle-time Reduction — insights documented in a special issue of the Center for Quality of Management Journal .[12]

Over CQM's first decade, many CQM members have followed the CQM recommended learning cycle: First, learn about the best practices of others. Second, individual companies integrate appropriate components into their own coherent management systems, adapting things as necessary. Finally, share these new "best practices" with others. Learning best practices is not sufficient. A company has to make the best practices their own. In so doing, the company develops a new best practice it can share.

12. Neil Rasmussen and David Walden, "Observations from the 1997-98 CQM Study Group on Cycle Time Reduction," *Center for Quality of Management Journal* Vol. 8, No. 2, Special Issue on Cycle Time Reduction (Autumn, 1999) 3-34.

2000 and Beyond

As the millennium was changing, CQM continued to see the necessity of ongoing evolution of management practice to meet the changing demands of the modern world. Figure 4 illustrates the on-going evolution.

There are ongoing efforts to further improve existing methods, such as those in the shaded circles on the main diagonal of the figure.

The world is becoming a more complex place. As shown in Figure 4: a) increasingly complex problems must be handled at lower levels of an

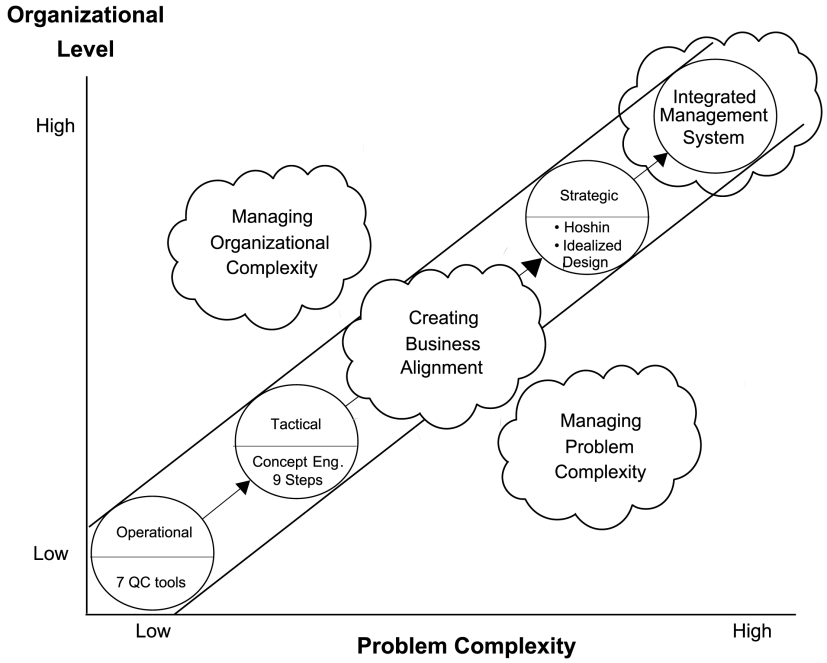

Figure 4. Problem Complexity versus Organizational Level.

organization, b) increased organizational complexity means that even relatively simple problems require effort from high in the organization, and c) new methods and old methods involving more people more often must be aligned in pursuit of business purposes.

Thus, in 2000,[13] with new president Gary Burchill (who Tom Lee hand-picked when he retired) deeply into his new job, CQM chapters, representatives of member companies, and a few others undertook a major new initiative to develop methods under the title of Mastering Business Complexity.

13. Actually, beginning in 1999.

Problem complexity

Increasing globalization, information technology, data availability, and time pressures are rapidly escalating decision complexity. As a result, the time to reach a decision often extends beyond the window of opportunity to take efficient action. Therefore, many complex decisions are based on the "gut feel" of senior decision makers. Unfortunately, research shows "intuition" is usually not applied consistently, which leads to second-guessing and half-hearted support within the organization. Organizations need pragmatic, visible, decision support processes. Individuals responsible for making, ratifying, or executing a given decision need to be able to trace the entire process from problem framing to alternative generation and selection.

Organizational complexity

Downsizing and decentralized decision making are trends that have significantly increased the span of control of many key positions within an organization. Concurrently, the moves toward cross-functional teams and supply chain management have decreased the sphere of direct control of the people who are accountable for managing the organization. As a result, the effort required to coordinate the actions of diverse participants significantly hampers the realization of business objectives. Models and step-by-step processes are needed that span from recognizing a need to collaborate through the final stage of obtaining commitments to action. People need skills that enable them to concentrate their efforts to address business concerns while capturing the value of diverse perspectives.

Business alignment

The escalation in organizational and problem complexity are like black holes, drawing time and effort away from the short-term activities that are necessary to achieve longer-term objectives. Maintaining focus and alignment is important in the best of times, but critical during periods of high growth and dynamic conditions. Approaches need to be defined for building alignment between technology and market opportunities, long-term strategy, and the operational activities required to support a specific business cycle plan.

Integrated management systems

Integrating the elements and methods of business improvement and organizational change into an integrated system has long been part of the CQM approach. As companies must increasingly address issues of

managing problem and organizational complexities, business alignment, and developing new methods to do so, each organization must continue to integrate the new methods into its unique management system.

Net speed

Finally, there is tremendous pressure for improvement methods to be operated at so-called "net speed," the speed at which many businesses perceive they must operate today.

To address the mastering business complexity issues described in the above subsections, the mechanism Tom Lee originally brought to CQM and continually promoted — study groups — was applied again.

- The Cambridge chapter undertook a study group on addressing problem complexity. This led to a new course on mastering problem complexity.
- The Cambridge chapter undertook a study group on addressing business complexity. This results of this study group fed into a new course on mastering organizational complexity.
- The Cincinnati chapter undertook a study group on making the so-called 7 Infrastructures[14] more operationally defined. The results of this study group also contributed to the new course on mastering organizational complexity, directly addressed business issues of business alignment, and produced a new manual [15]
- To address the net speed issue, the California chapter based in Silicon Valley undertook a study group on quality improvement at Internet speed, and the Ireland chapter based in Dublin undertook a study group on rapid cycle methods. Results are just beginning to emerge.

At this writing (March 2001), Mastering Business Complexity methods resulting from the above mentioned studies are being taught, used and refined. And the CQM chapters and member companies continue to look for weaknesses that need to be addressed, undertake to study them together, and to develop still newer methods to provide high performance integrated management systems for organizations of all types, so each organization and its people can find their unique capabilities and prosper.

CQM continues to practice the methods that Tom Lee helped us learn and encouraged us to practice so that we may all enjoy life more.

14. Shoji Shiba and David Walden, *Four Practical Revolutions in Management* (Portland, Oregon: Productivity Press, 2001) ch. 21.

15. *Mobilizing Change Using the 7 Infrastructures*, a manual published by the Center for Quality of Managment (Cambridge, MA, 2001).

The Center for Quality of Management Journal is a forum for disseminating the experience of organizations learning to implement modern management practices. It seeks to capture experiences and ideas that may be useful to others working to create customer-driven, continuously improving organizations.

The CQM Journal is refereed. However, it is not an academic publication. Experiences and ideas will be published if they seem likely to be useful to others seeking to improve their organizations.

Send to:

The Center for Quality of Management Journal
Editorial Department
One Alewife Center, Suite 450
Cambridge, MA 02140
Tel. 617-873-8950 Fax 617-873-8980
E-mail: kevin_young@cqm.org

If you have thoughts for a paper and you would like to discuss it with us, please write, call or submit an outline. We welcome your ideas.

Final Manuscript Requirements:

Entire manuscript should be double-spaced, including footnotes, references, etc. Text should include all the elements listed below. Generally, The CQM Journal follows the editorial principles of The Chicago Manual of Style. We strongly prefer submissions in electronic format for all text and as many of the figures as possible. IBM-based software (particularly Microsoft Word for Windows) is preferable to Macintosh-based software if you have a choice, but is by no means a requirement.

Please include:

1. Title page, stating the type of article (e.g., 7-Step case study, research paper, short communication, letter to the editor, etc.), main title, subtitle, and authors' full name(s), affiliation(s), and the address/phone/fax of the submitting author;

2. All needed figures, tables, and photographs (see below);

3. Footnotes (if appropriate), numbered consecutively from the beginning to the end of the article;

4. Reference list, if appropriate.

Figures, Tables and Photographs:

If you can, insert each figure or table into the text where you would like it to fall. Figures should be composed to conform to one of two widths: 3 1/8 or 6 1/2 inches. The maximum height for any figure is 9 3/8 inches. Text within figures should not be smaller than 5 points and lines not less than 1/4 point at the figure's final size. Figures should labeled with the figure number underneath and title on top. Be sure that the text mentions each figure or table.

Please retain separate PICT or TIFF files of figures generated in drawing programs and a file with the text only for final submission.

Production Team

Eric Bergemann
Publisher

David Walden
Editor

Kevin M. Young
Design & Production

CQM Officers

Ray Stata
Chairman

Gary Burchill
President

Paul van der Wansem
Treasurer

William Wise
Clerk