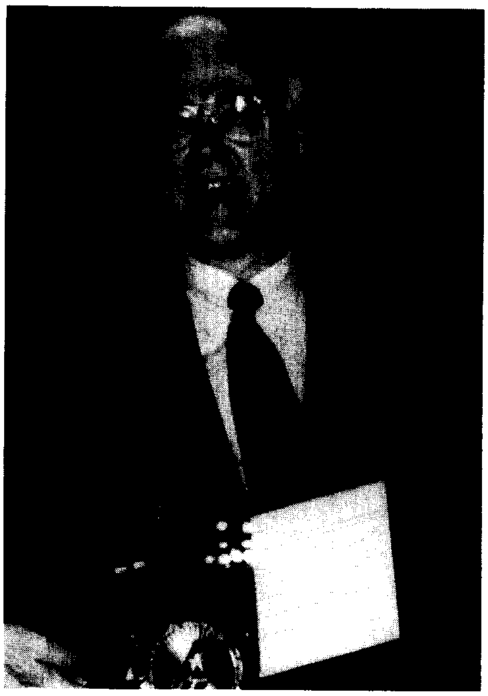
CONFERENCE REPORT

Baldrige Winners Link Quality, Strategy, and Financial Management

By Tim R.V. Davis

The Fifth Annual Total Quality Conference presented this Spring by the Unified Technologies Center of Cleveland featured some of the most influential contributors to the theory and practice of quality management as well as representatives from each of the 1991 Baldrige Award winners.

These are critical times for the total quality management (TQM) movement. The enthusiasm and unbounded optimism of the Eighties has now been tempered by some doubts and cynicism. Most medium- and larger sized companies have experimented in major or minor ways with quality management, but the results have often been mixed. This conference provided a forum for TQM's more celebrated advocates to take stock of the progress being made and assign blame for the failures. While no one would expect the people who made their reputations in the field to be completely objective, the speakers offered valuable insights on where TQM is going, what leading edge companies are doing, and why TQM is, in some instances, not succeeding. It was also an opportunity to compare the approaches of three well-known theorists and consultants.



Raymond Marlow, President and CEO, Marlow Industries accepting the Baldrige Award.

Joseph M. Juran. One of the patriarchs of the quality profession, Joseph Juran described the migration of quality improvement from manufacturing to all areas of the business. He suggests setting quality goals that force companies to stretch. This can be done by benchmarking process improvements in other companies that perform a particular function exceptionally well. Internally generated standards for such functions as order entry, receiving, transportation, and billing are no longer the best way to perform these functions adequately. Competitive pressures require companies to learn the best way to perform these functions from industry leaders around the world.

Juran emphasizes that high-level management involvement and planning is vital for quality improvement. He blames top management complacency for the disappointing results from quality improvement efforts. Senior management should participate in a corporation's quality council, its project teams, and in measuring the influence of quality improvement on financial performance.

Philip Crosby. The need for more top management involvement and a tighter linkage with financial performance is so important to Phil Crosby that he will only teach a quality seminar in a company if the CEO and the rest of the management team attend. "It's their responsibility," Crosby told the Conference. "Quality improvement is top management taking action. In companies doing well with quality, the senior executives have taken it over and keep their hands on it. The way to build a quality commitment," he warned, "is to pay attention to it every day of every week. It can't be a fad."

Crosby believes that quarterly earnings' pressure is hurting quality improvement. The best approach is to build quality into the long-range plan and to communicate its importance to shareholders. Crosby cautioned that quality improvement is not the right place to make spending cuts as soon as the dividend is in jeopardy. One of the reasons why TQM does not become part of a corporate culture is because

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"people don't measure its impact rightly," he said. "Finance is what drives a corporation. Line and staff people need to measure the impact of quality in financial terms, otherwise top management, accountants, and finance people won't listen."

Richard Schonberger. The third keynote speaker, Dick Schonberger, was one of the first authors to introduce Japanese production management to U.S. managers (*Japanese Manufacturing Techniques,* New York: The Free Press, 1982). In the early Eighties, he had the opportunity to study these techniques firsthand at the Suzuki plant in Lincoln, Nebraska. His most recent book, *Building a Chain of Customers* (New York: The Free Press, 1990), extends TQM beyond operations into the other functional areas in both manufacturing and service businesses.

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His latest views are more akin to a new theory of management. They are certainly a lot broader in scope than the approaches of either Juran or Crosby. Schonberger recommends transferring the same techniques that have been used successfully in manufacturing to administrative support and service jobs—for example, moving people closer together; the formation of self-managed work cells; the elimination of queues and work in process; the adoption of systematic data collection and statistical process control; the use of visual management techniques; and the elimination of unnecessary reporting.

According to Schonberger, managers must innovate in every functional area of the service enterprise. Companies need to build quality, speed, flexibility, and low cost into all their business practices and organizational culture. They need to bind all employees to the external customer by defining performance for all jobs in terms of customer needs. He stressed the need to break up functions and move specialists alongside the front-line employees they're supposed to be serving. He discussed the examples being set by such service companies as Aetna Life and Banc One, which have formed teams designed to serve customers by locating all their specialists in one place.

Schonberger advocated eliminating all cost accounting and variance reporting. In its place, he suggested a yearly ABC (activity-based costing) audit in which the cost of all activities could be calculated for budgeting and resource allocation. He stressed the need for all workers to document, control, and display their own process. Once this is done, the activities that control the consumption of costs will automatically be under control, and extensive cost reporting will become redundant.

Among Schonberger's other recommendations:

- Break up the specialization of labor and eliminate antiquated and obstructive job classification systems.
- Develop a flexible, cross-trained work force that can operate as a team, exchange jobs, fill in, and back up one another. A case in point: Buick, which won the Baldrige Award in 1990, pared its job classification system from 108 categories down to just three. This greatly increased the flexibility and responsiveness of the auto maker and led to improved performance and productivity.
- Adopt pay for skills programs that reward employees for learning additional jobs. Employees then become more valuable and more flexible.

Schonberger was particularly critical of many companies' lack of commitment to worker training. Recent American Society for Training and Development figures show that the average amount U.S. companies currently spend on training is just 1.5 percent of sales— mostly for higher levels of management.

"Developing only a few fast-track people who are moved around the company is poor policy," chides Schonberger. He prefers the Japanese system, which moves many more people through a variety of jobs and functional areas. He suggests that the proper target for U.S. industry spending on training should be 5 percent of sales, and that more of it should be provided for lower level workers.

The Winners Tell How They Did It

The three 1991 Baldrige Award winners provided case studies of the quality management theories in action. The three companies — Marlow Industries, Inc., Solectron Corporation, and Zytec Corporation — told how they got closer to the customer, fostered increased employee involvement, forged tighter supplier partnerships, developed improved process measurement, cut cycle times, eliminated waste, and got rid of delays.

Marlow Industries. Founded in 1973 with five people, Marlow Industries manufactures thermal electric coolers for laser optics sensors and detectors. Sixty percent of the company's business is with the military and 40 percent from commercial customers. Over the past two decades Marlow has averaged 15 percent annual growth and now employs 160 people. Chris Witzke, COO of Marlow, described the evolution of quality management:

"When you're trying to improve quality, people are what hold you back or help you move forward. From the start, we realized we needed to demonstrate our commitment to our people through active involvement, and by putting money into training, making improvements, and rewarding participation."

During the early stages of quality improvement at Marlow, senior management was heavily involved in setting up a quality council, designing a training program, and teaching the classes. "We felt the best way to communicate management's commitment was to teach the course ourselves," said Witzke. Involvement in the quality-improvement effort was mandatory for all levels of management and voluntary for employees. Nonetheless, virtually all employees soon decided to participate. Quality improvement teams were formed by the Total Quality Management Council. Each team was required to pick a problem, present the causes of the problem, propose a solution, and cost it out for the TQM Council. Every team was given the authority to sign for purchases of up to $300 to make improvements. Rewards like a $300 color TV set were offered as prizes.

The results of Marlow's quality-improvement effort are most evident in its customer relations. According to Witzke, Marlow has not lost a customer in the past ten years. For example, each of Marlow's front line employees try to develop close personal relationships with each customer's purchasing, order entry, receiving, and accounting people. Marlow also asks customers to benchmark the requirements "they would like us to meet." In turn, these requirements are passed on to suppliers so that they can help Marlow meet its customer's needs.

"Supplier partnering" has been a critical area for improvement. Marlow surveys its suppliers on purchasing, engineering, and accounting performance. Supplier conformance and on-time delivery has greatly improved since Marlow began informing suppliers of its rating system and regularly monitoring them.

"We found that many suppliers do poorest on accounting. By getting in step with customers' billing cycles and being paid earlier," says Witzke, "Marlow has improved its own accounting performance and realized a 55 percent reduction in outstanding receivables."

Quality and business planning are now integrated at Marlow. The company still has a TQM Council, but quality execution is driven through the normal chain of command. The quality plan that was originally in place has been supplanted by a strategic plan that includes quality improvement. The company is matrixed by business function and by strategic business units that serve different customer segments. Witzke explained that all levels of management participate in the strategic planning process, and each SBU participates in defining the long-term direction of the company. This then guides department managers in setting goals that are closely linked with SBU and corporate financial plans. A copy of the strategic plan is provided to everybody in the company, with a more detailed description broken out for each particular department.

Marlow uses tailored "customer measures" to assess its own performance in each market segment. These measures are graphed, publicly displayed, and used to target further

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employee performance improvement. Like many companies, Marlow has found that employee satisfaction and customer satisfaction go hand in hand. The evidence of this connection was very strong when a recent employee survey revealed that 99 percent of the employees at Marlow said: "I enjoy my job," and when Marlow also passed all customer audits for the first time.

Solectron Corporation. A contract electronic manufacturing company, Solectron Corporation supplies the computer peripherals and medical markets. Seventy percent of the company's business consists of printed circuit board assembly. Tom Kennedy, VP for Quality Assurance and Technical Operations, credits part of Solectron's success to a culture that promotes four dominant values:

- "The customer is Number One."
- "Respect for individual employees."
- "Commitment to highest quality."
- "The development of supplier partnerships."

But the main reason the quality program succeeded, Kennedy explained, was the CEO's leadership and commitment to "management by measurement."

Solectron first began to commit to quality improvement in 1984. The CEO, Winston Chandler, taught the first classes in statistical process control and began emphasizing the need to study customers' views of quality in order to make improvements in product and process design. The CEO was also instrumental in urging front line people to build relationships with their customer contacts and in encouraging the formation of cross-functional quality-improvement teams around core business processes. Like Marlow, Solectron has made extensive use of benchmarking to motivate employees to make improvements in areas considered critical to customers. Kennedy commented that "when other companies demonstrate that leapfrog improvements are possible in certain areas, it makes believers out of employees."

Solectron has an extensive customer satisfaction measurement system. "We measure a lot of things every hour, every day, every week, and every month," says Kennedy. For example, Solectron polls a sample of its customers weekly and then mails the findings to its 70 best customers. Because customer feedback is often difficult to obtain, "We stimulate it by providing customers with this weekly feedback on what we see and ask them to provide us with feedback on what they see," explains Kennedy. "This has proved valuable in adjusting our measures to our customer's measures and keeping on top of problems as they occur."

Solectron also polls its customers for comparison data on satisfaction with competitive products and competitor field reliability. All customer comments and complaints are referred each day to the responsible managers and front line employees. Supplier performance is also monitored with equal rigor. The emphasis on quality and the focused measurement system have resulted in numerous improvements in many areas of company performance; for example, reduced rework costs, increased inventory turns, improved on-time delivery, fewer days' outstanding receivables, decreased billing errors, reduced rejects from suppliers and better quality. At the same time, sales, profit, and earnings per share have also shown consistent improvement.

Kennedy also singled out the company's focus on education and training as one of the critical reasons for the company's success. The formation of Solectron University, the company's training facility, has also played a major role. The company targets 85 hours of training for every employee per year. The curriculum includes management training, quality training, and safety training. All new managers attend formal graduations after completing line management school.

Zytec Corporation. Zytec — the fifth largest U.S. manufacturer of power supplies for electrical equipment — was founded in 1984, after a leveraged buyout from Control Data. John Steel, VP of Sales and Marketing, said that Zytec had been committed to quality expert Edward Deming's 14 points from the outset. The company's senior management also believed in empowering employees, sharing information, and working very closely with customers and suppliers.

Zytec's trust in its work force was reinforced in 1986 when time cards were discontinued and all full-time employees were put on the honor system. It was also reinforced by such actions as eliminating tool crib security. "Employees no longer have to fill out five or six forms to justify the need for a wrench, they can just remove tools from the shelf when they need them." In addition, the job of tool room attendant was eliminated, and door locks on formerly secured areas were removed.

In 1987, the company introduced a multifunctional, pay-for-knowledge compensation system to encourage employees to develop themselves, and it introduced self-managed work teams to facilitate more supportive work group behavior. Subsequently, all company sales people have been taken off individual commission-based pay and placed on salary. John Steel explained that individual incentive systems often encourage selfishness rather than cooperation. "We wanted to encourage collaboration with interdependent activities such as account collections, production scheduling, and shipping." In addition, all employees have been offered stock options.

Among its other improvements, Zytec has removed all production line inspectors (line workers have taken over inspection) and has introduced just-in-time practices throughout most of the company's manufacturing and administrative operations. The company has formed over 40 employee teams, each with the mission of improving the quality of service to internal and external customers. In 1991, all of Zytec's 248 employees went on the road to meet with external customers. All employees are now empowered to spend as much as $1,000 for customer service improvements without obtaining higher level approval.

In financial management and performance reporting, Zytec has introduced quality justifications for capital equipment/investment instead of discounted cash flow and ROI. Top management meets every Monday morning to discuss customer quality reports first, on-time delivery second, and cash flow third. Manufacturing labor variance reporting has been eliminated. Inventory turns improved from 3.6 times in 1985 to 7.3 times in 1990. Manufacturing yields improved 50 percent from 1985 to 1992. Accounts receivables that had averaged over 40 days in the mid Eighties were below 30 days by early 1992.

In 1989, Zytec committed itself to winning the Baldrige Award. It formed a Baldrige Steering Committee that same year and submitted its first application for the award in 1990, advancing to the final 15 companies. By learning from the examiners' feedback, it submitted a winning application the next year. "Even though we won in '91, the Baldrige examiners gave us 120 areas for improvement. What a gift!" Steel said. Some of these challenges involve reducing delivery times, increasing reliability, lowering costs, and moving from partial to total recyclability.

Commentary: Integrating Quality, Strategy, and Finance

The Baldrige Award winners featured at this conference are mainly small, young, closely held companies. From the start, the senior managers believed in quality management values. These winners obviously provide excellent models for emerging, growing businesses.

On the other hand, large publicly held companies with authoritarian cultures that must deal with the continual carping of dissatisfied investors face different challenges:

- First, they must undergo a massive cultural conversion.
- Second, they must resolve the daunting problem of how to deal with a fixation on short-term financial results.

The need for leadership to get through these two obstacle courses is what the consultants mean when they proclaim the need for top management involvement. Moreover, quality management is not just about quality improvement—it is also concerned with innovation, adding value, cost containment, and productivity improvement. These are all the responsibility of top management.

Quality management and strategic management are now so closely intertwined that they have become indistinguishable. Achieving an integration of quality, strategy, and financial management is critical to the future of TQM. In most companies, the structure and methodology for implementing quality improvement is different from the one used to develop and execute strategy. A parallel structure consisting of a quality council, a quality department, quality facilitators, and quality-improvement teams is usually formed initially to implement the quality-improvement effort.

This approach to mobilizing quality efforts usually includes more staff people, which differs from the line management power structure that is used to formulate and implement strategy. While these parallel structures may be appropriate during the introductory stages of quality management when new understandings, special training, and fresh skills may be needed to break the ice, to succeed in the long run, quality management must be integrated with the strategic management process and blended into the customary market analysis, capital budgeting, and financial planning. Otherwise, quality improvement is likely to fade out fast. Companies that measure the organizational impact of quality, integrate it into accounting reports, and show the bottom-line impact of quality improvement on the income statement are more likely to grab the attention of senior executives harried by the financial expectations of the capital markets, undervalued stock, and rumors of takeovers.

Like the transition achieved at Marlow, quality management needs to be integrated with long-range planning and the annual operating plan and budget. Quality measures need to be evaluated with financial measures, and the relationship between the two studied carefully. Companies that achieve this integration will have lasting quality improvement. Those that do not may have difficulty sustaining the quality focus. "Hard" financial measures are likely to force out "soft" quality indicators.

Select High-Potential Targets. Some of the other frequently cited criticisms of quality management are that it is too broad in scope, takes too long to get results, tends to be managed like a program, and frequently ends up floundering. Many companies are failing with TQM because they try to change everything all at once and then expect immediate results. Companies need to focus their resources on projects with a high potential for success rather than frittering away resources on a broad front. They need to pick areas of strategic importance and build on a foundation of measurable results. As long as TQM is integrated with the strategy, budgeting, and performance-measurement process, it will not be treated as a temporary program. It will be viewed as a permanent and fundamental part of managing the business.

Perhaps the most important lesson to be learned from these Baldrige Award winners is the vital importance of complementary human resource practices that support quality work and encourage people at the middle and lower levels to come up with creative ideas for improvement. Unless companies can make this approach part of their culture, quality improvement will fall by the wayside. □