

## **A Quality Policy for America**

by

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# A QUALITY POLICY FOR AMERICA

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*This paper describes Total Quality Management (TQM) and its benefits. It then outlines a three-point proposal for a national quality policy: (i) implementing TQM throughout the U.S. government, (ii) creating a set of nationally recognized certifications for employees' quality skills, (iii) creating a set of nationally recognized supplier quality certifications.*

## I. INTRODUCTION

On March 4, 1993, Bill Clinton became the latest in a series of presidents to declare war on waste in the federal government. Use of Total Quality Management (TQM), he said, would be one of the features separating this attempt from its fairly inglorious predecessors.

TQM combines a set of problem solving tools with a management philosophy of training, motivating, and empowering all levels of an organization to focus on customers' needs. In both the public and private sectors, TQM has shown potential for cutting costs while improving customer and employee satisfaction. When TQM succeeds in the sense of producing sustained decreases in costs and defect rates, the improvements result from employees' higher skills, not lower living standards. Unfortunately, most TQM efforts in the United States are too poorly designed and implemented to lead to sustained success (Lawler et al., 1992;

Fuchsberg, 1992). To make future efforts effective, one must learn from both the successes and the failures.

Quality management is particularly important for the government, because of the government's duty to serve the public. Many observers note the irony that profit-oriented companies such as Hewlett-Packard routinely provide higher levels of service than do so-called "public servants." Most government employees begin their jobs intent on serving the public. Unfortunately, they often find themselves frustrated when management within government does not provide them the tools and opportunities necessary to meet their customers' needs.

This paper describes total quality management programs and provides evidence of their effectiveness (when implemented properly), then outlines a three-point policy for using TQM to increase the quality of goods and services provided throughout the economy.

## II. WHAT IS TOTAL QUALITY MANAGEMENT?

Under pressure from the Japanese (whose defect rates may be a tenth of their American competitors'), hundreds of the largest U.S. manufacturing and service

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### ABBREVIATIONS

GAO: General Accounting Office  
TQM: Total Quality Management

companies have adopted total quality programs (Lawler et al., 1992). Companies as different as Ford, Xerox, and Florida Power and Light have dramatically improved quality and productivity with TQM while increasing worker participation and satisfaction (GAO, 1991). Many types of quality-assurance programs exist. One example will clarify how successful TQM can operate (Honda interviews, 1992).

In 1989, Honda of America's East Liberty auto-assembly plant became the first in North America to introduce water-based paint, which has significant environmental advantages but is much more subject to contamination than are conventional paints. Initially, over half of the cars required rework, disrupting the plant's just-in-time production system. However, by June 1992, continuous improvement by managers, workers, and suppliers led to a 99.2 percent first-pass yield—better than most traditional automotive paint shops.

When the new system was installed, Honda formed a team of line employees and engineers to study the resulting problems, using TQM tools at each stage of the problem-solving process. They used statistical process control to track the number and timing of defects, brainstorming and cause-effect diagrams to analyze sources of errors, and Deming's "Plan-Do-Check-Act" cycle to ensure that proposed solutions solved the problems.

Team members did experiments to pinpoint the complicated factors that created the problems. For example, someone implicated the paint stirrer as a source of contamination, but this idea was discounted after workers tested a batch of paint and observed that it remained uncontaminated in the stirrer for several hours. Then one morning a team member came in and observed contaminated paint in the stirrer. The team redid the experiment, gradually increasing the time the paint stayed in the stirrer. Sure enough, when left overnight, the paint began to

form globs. The countermeasure was simple: avoid leaving paint overnight in the stirrer.

People involved in all parts of the production process contributed ideas for incremental improvement. The paint supplier suggested ways to prepare the car's surface. Honda made many suggestions (1,188 in all) to the paint supplier, including ways to improve housekeeping and operator training. All sides learned from the experience, particularly as the paint supplier's chemists and engineers came to understand that Honda line workers had technical knowledge worth listening to. As always in TQM, success did not depend solely on the quality tools but turned on management's philosophy of pushing authority down to employees at the lowest levels and giving them the tools and incentives to solve problems.

TQM has been effective in U.S.-owned companies as well. A General Accounting Office analysis of U.S. companies that won the Baldrige award for their quality efforts concluded (GAO, 1991, p. 2):

Companies that adopted quality management practices experienced an overall improvement in corporate performance. In nearly all cases, companies that used total quality management practices achieved better employee relations, higher productivity, greater customer satisfaction, increased market share, and improved profitability.

There are many examples of successful TQM in the public sector as well as the private.<sup>1</sup> The Internal Revenue Service cut mailing costs by \$11 million after adopting TQM in 1986. Naval Air Systems saved \$1.8 billion from better supplier relations (*Business Week*, 1991).

1. For additional cases, see GAO (1991) and Lawler et al., (1992) on large U.S. employers; Cole (1989) and *Business Week* (1991) on non-U.S. quality programs; Federal Quality Institute (1992) on the federal government; Osborne and Gaebler (1992) on city government.

In 1984, customers at the Watertown (Massachusetts) Registry of Motor Vehicles often waited two hours and might stand in several lines because signs were confusing or hard to see. By 1988, waiting times had been reduced up to 60 percent, and confusion about procedures was almost eliminated. The reason? Branch managers and their supervisors statewide cooperated to implement changes. They collected waiting-time statistics, and then rescheduled clerks' break times to keep lines from building up. After learning of customers' confusion about procedures, they reinstated an information clerk and clarified signs. By advertising the option of mail-in registration, they increased renewals by mail from 15 percent to over one-third. Finally, they introduced a computer system that eliminated data-entry duplication. No single change was dramatic, but the process of focusing on clients' difficulties led to a host of improvements (Scott, 1984; Lewitt, 1989; Robert Leone, personal communication, 1992).

As these examples show, TQM provides tools for systematically involving all organizational levels in generating new ideas and keeping track of what works. These tools go beyond improving the quality of output from a given production step—they examine whether the step should be performed at all.

Unfortunately, a typical U.S. TQM program springs from the enthusiasm of a few top executives who hire a consultant and mandate a few days' training for all employees. Managers and their subordinates learn the basic problem-solving tools of TQM and return to their (unchanged) jobs. Employees often begin applying the tools enthusiastically but lose interest as meetings proliferate, few of their ideas are implemented, and their successes go unrewarded. Ken Stockbridge, a GAO expert on TQM, recounts an example of a county government quality team that required 10 meetings over 10 weeks to choose a name

for their group (personal communication, 1992). At its worst, TQM becomes a management speed-up that makes people work harder but does not yield sustained improvements in product quality (Parker, 1985). Therefore, both middle managers and unions often resist the new programs.

In short, TQM usually means more bureaucracy, not a dramatic cultural shift in either public- or private-sector workplaces. A three-point national quality policy can change this. Such a policy would involve (i) fully implementing TQM throughout the U.S. government, (ii) creating a nationally recognized set of certifications for employees' quality skills, and (iii) creating nationally recognized supplier quality certifications.

No three-point program can revolutionize the U.S. economy, but these proposals provide a start. The analysis below also notes several additional programs that would help increase Americans' skills and quality of work life while improving their products.

### III. POINT 1: IMPLEMENTING TQM IN THE U.S. GOVERNMENT

The federal government has a unique role as the largest employer and purchaser in the United States. Changes in government's dealings with employees and suppliers can alleviate market failures that lead to inefficiently low levels of training, employee involvement, and supplier/customer cooperation throughout the economy.

In practice, however, the federal government's adoption of TQM has been rapid but largely ineffectual. Although at least half of all installations participate, only 3 percent of those have "incorporated all the principles and operating practices of TQM throughout much of the organization." These few report improved customer service and reduced costs; they also implemented the substantial changes in human resource policies recommended below (GAO, 1992).

### A. A Customer Focus

One insight of the quality movement is that most employees and departments have many customers—that is, people inside and outside the organization who would notice if they stopped showing up at work. Total quality practices focus on identifying all customers' needs and meeting as many as possible.

In the private sector, although many customers are internal to the organization, the ultimate customer is the one paying for the product. In contrast, the government's customers include the citizenry in general—an extremely diverse group. (Even in the private sector, regulators, communities, suppliers, and employees are additional stakeholders in a corporation.)

It is possible for an agency to emphasize the "wrong" customer. In such a case, TQM's increased efficiency can lead to more of a bad outcome—more trade protection of inefficient companies or more environmentally-harmful logging on sensitive public lands, for example.

One benefit of a quality program is that it forces an agency to define explicitly who its customers are. This process gives employees the tools to recognize the needs of customers (such as the citizenry in general) whose interests are more diffuse than those directly regulated or served by the agency.

An important purpose of a democratic government is to provide a forum for resolving conflicting interests among different groups of citizens. Total quality management can neither resolve political disputes nor choose the appropriate priorities and "customers" of government. What TQM does offer is a more efficient way to achieve those goals chosen by the political process. TQM's tools for investigating customer needs are well suited to finding "win-win" solutions. Even when interests clash, increased efficiency in meeting one group's goals can simultaneously help other groups.

Another important advantage of stressing quality is that it provides a goal that workers, managers, voters, and customers agree on. Workers favor high quality for several reasons (Cole et al., 1993). First, most of them like doing a good job and satisfying customers. TQM also allows workers to gain more skill, more understanding of where their tasks fit in the production process, and more influence over their immediate work environment. A successful program combines these intrinsic rewards with extrinsic rewards such as increased employment security and higher pay. Eventually, the material rewards will pay for themselves due to higher quality and productivity and lower turnover. These motivators should succeed in both the public and private sectors.

### B. Required Changes in Human Resource Policies

Unfortunately, many commonly used human resource policies undercut workers' intrinsic motivation to do a good job. How must these policies change if TQM is to achieve its potential?

Most important, TQM must truly empower workers, not just let them spout off. A large survey of federal agencies found that the most common barrier to TQM's success (as reported by the agencies) is employees' doubt that they are empowered (GAO, 1992, p. 40).

Even when workers generate new ideas at the start of a program, if their ideas lead to layoffs, they quickly stop participating. Thus, employment security has been important in maintaining the flow of ideas at companies like Hewlett-Packard and NUMMI. TQM requires high levels of training so that workers can handle problem-solving tasks. Thus, a fledgling TQM program may take several years to pay off (GAO, 1991).

Pay should be tied to performance so that workers' extra effort is rewarded. Thus, gain-sharing facilitates TQM. How-

ever, fewer than half of federal installations with TQM efforts even recognize successful work teams; presumably, far fewer give financial rewards (GAO, 1992). Because quality programs rely on groups of highly skilled workers solving problems together, pay that rewards skills rather than the job currently being performed also facilitates TQM (BLMR, 1986).

TQM also requires changes in the role of unions, which often mistrust new work practices that may reduce workers' loyalty to unions and undercut union contracts. As the Federal Quality Institute (FQI) points out, it is important to "include organized labor at all stages in the process so that union leaders understand what is planned and can support the effort" (1991).

However, this level of involvement is only a start. At successful TQM sites, such as the IRS and GM's Saturn plant, unions are partners in designing the quality program (FQI, 1991; Goldman and Ginsburg, 1992). To gain union support, TQM programs must enhance unions' role and create new sources of power for union leaders. For example, union officials can work with management when new ideas affect several work groups and when employees disagree with their supervisor. Enhancing the union role is important because quality programs often relax work rules that protected employees from arbitrary management actions.

In addition, union buy-in can protect an organization from loss of commitment by management. For example, a TQM program at the Logistics Command Center at McClellan Air Force Base was threatened by a reorganization that fragmented the center. The program has been very successful: it saved over \$7 million in four years, raised aircraft mission readiness from 40 percent to 76 percent, and won a national award from the Federal Quality Institute. Nevertheless, management does not support continuing the project, and "the voice of the local union to keep the

project going may turn out to be the greatest asset in terms of extending the project's life" (Gilbert, 1992). Unions have been effective advocates for total quality principles in the private sector as well, pushing management to start quality programs (United Auto Workers, 1991), to honor their commitments to train (Babson, 1992), and to protect quality circles and TQM training from managers intent on showing a short-term profit (Coss, 1993).

Quality programs also need to change middle managers' roles. By pushing decision-making power down to the employees who deal with clients or produce the product, TQM reduces the power of middle-level managers and can threaten their jobs. This makes it crucial to add teaching, cross-departmental coordination, and problem-solving tasks to middle managers' jobs. In addition, top managers must push their own decisions downward so that middle managers can use the time freed from fire fighting to address more strategic problems. In short, the key is for managers at each organizational level to build the skills and motivation of the levels below and then to trust their subordinates.

Pushing decisions downward is not the only change that TQM requires of top managers. It is essential that they effectively communicate their endorsement of TQM as a serious change in the organization (Lawler et al., 1992; GAO, 1992). Top managers can show their enthusiasm through actions such as sitting on the TQM steering committee, publicly endorsing TQM principles, and implementing these principles in their own work. It is vital that top managers communicate through actions, not just words. People at all levels of an organization resent management that does not "walk like it talks."

To repeat: a little training, a few tools, and a set of slogans will not suffice. Long-term TQM success requires a complete overhaul of how decisions are made in an organization.

#### IV. POINT 2: CERTIFYING EMPLOYEES

A national quality program should greatly increase worker training and establish national training standards. Substantial evidence indicates that U.S. employers train less than do their foreign competitors (MacDuffie and Kochan, 1995) and less than is socially optimal (Commission on Workforce Quality and Labor Market Efficiency, 1989). This inefficiency occurs mostly because companies refuse to pay for much training because they fear that the worker will later quit, leaving the company with little return on its training investment. Workers also are unwilling to pay for much training, since they face the risk of layoffs and doubt the training's value to other employers.

Both the Japanese and the German systems of training appear to provide much higher skill levels (Dore, 1987). However, neither system can be transferred to the United States without major modification. Because Japanese employers expect to keep a worker for most of his career (employee turnover being low), they are willing to invest in training. In Germany, strong union and industry federations pressure employers to train, even though some apprentices will later quit.

The United States is unique among its major competitors for its lack of worker skills certification. This lack of certification makes training less portable and reduces employees' incentives to invest in improving their skills. To ensure education in quality management in this country, it is necessary to establish national standards.

Quality training could be provided by unions, small businesses, consultants, junior colleges, high schools, business schools, and so forth. To subsidize training, the federal government could provide a fixed amount per certification. Such subsidies may be needed because the market for training is highly imperfect. For example, while increased portability makes employees value training more, it decreases employer willingness to pay for it (Com-

mission on Workforce Quality and Labor Market Efficiency, 1989; Levine and Tyson, 1990).

Certification in quality education would not rely on passing a single test. Instead, each set of skills would have an appropriate set of training exercises, experience in implementation, and written or oral tests. The model should be the Boy Scouts' "merit badge" approach to measuring achievement (Beardsley, 1992). For example, a student could achieve certification in basic quality skills (e.g., statistical process control, cause-effect analysis, and problem solving skills) during high school. In her first year on the job, her employer could provide classroom training in skills for intermediate-level certification (e.g., running a meeting, plus more problem-solving tools). At this level, she would also have to participate in a problem-solving group at work and make a presentation on a successful process of problem identification and solution. Later in her career, she would attend a junior college for a certification in quality training that would qualify her to teach basic quality skills. A colleague might instead attend a local university extension to acquire advanced quality skills in experimental design and data analysis. In either case, the certifications would be recognized across industries because the skills are useful in many jobs.

##### A. Benefits of National Quality Certification

National quality certification would reduce training costs since a standard set of skills would be widely taught. The costs of selecting employees also would drop since employers could easily compare skills. While theory predicts that more general training would increase worker turnover, turnover actually is lower at companies that provide publicly certified training (Feuer et al., 1991).

As quality certification became more valuable, it indirectly would reward stu-



dents for achieving basic reading and math skills. Students who perform poorly in traditional classrooms may learn more readily when they combine academic training with solving real-world problems.

The availability of a certification procedure alone would increase greatly workers' TQM training, but additional policies to encourage high skill workplaces are needed. These might include a macroeconomic policy for maintaining full employment (Levine and Tyson, 1990) or subsidies for employers with employee participation (Levine, 1995).

#### V. POINT 3: CERTIFYING SUPPLIERS

Besides changing labor relations, in a successful TQM program "the organization establishes a partnership with suppliers and customers to assure continuous improvement in the quality of the end products and services" (FQI, 1991). Research shows that long-term, information-rich relationships between suppliers and customers increase flexibility, quality, and product development speed. For example, Clark (1989) attributes a substantial portion of the Japanese auto industry's advantage in product development lead time to heavy involvement of automakers' suppliers in the process. In the United States, suppliers with long-term contracts are significantly more likely to invest in computer-controlled equipment, which increases productivity, quality, and flexibility (Helper, 1991).

Despite this evidence, U.S. purchasers typically set up a competitive process for awarding short-term contracts to suppliers and do most of the design themselves to facilitate comparison among prospective suppliers. To maintain a credible threat of switching suppliers, customers minimize communication with them. This strategy maximizes the customer's bargaining power and makes it easy to monitor purchasing agents. However, it cuts the customer off from suppliers' ideas about product design and limits suppliers'

customer-specific investment (Helper and Levine, 1992).

The result is a cumbersome purchasing bureaucracy devoted to maintaining comparability among suppliers while stifling communication between suppliers and the purchaser's engineers (a process which might lead to favoritism). For example, the military specifications for chocolate-chip cookies run to 16 pages of tiny, single-spaced type (Harper's, 1985). In contrast, by working closely with computer vendors, staff of the Iowa State Legislature were able to design a system that for the first time gave them the capability to analyze the governor's budget proposals. This performance was far beyond the legislature's initial goal of computerizing only existing functions (Kennedy, 1985).

Neither public nor private organizations have done much to involve suppliers in their quality-assurance efforts. Barely half of government installations in the GAO's 1992 survey report that they had "work[ed] with suppliers to improve quality...to any degree" (p. 56). According to a 1989 survey of U.S. automobile component producers, 95 percent used statistical process control (SPC) at their own firms, but only a third said that a majority of their suppliers used SPC. Only a quarter provided technical assistance to a majority of their suppliers (Helper, 1991).

Therefore, the federal government should initiate a unified policy to improve the processes and outputs of its contractors and suppliers. Specifically, the federal government should require its largest suppliers to apply for the Baldrige Award: the 100 largest suppliers the first year, and the 500 largest the following year.

This award measures companies' progress toward several goals: incorporating quality into management practices, working closely with suppliers, training workers in quality techniques, and meeting customers' needs. Examiners from industry and academia rate entrants, and senior examiners and a panel of judges from the

private sector further judge high scorers. (Alternatively, the government could certify private-sector firms to perform the judging.)

Of course, few applicants actually would win a coveted Baldrige Award. (No more than six awards are given a year: two each in manufacturing, services, and small business.) Nevertheless, the application process shows companies how their operations differ from best practice and encourages improvements. For example, when Cummins Engine was having quality problems, it applied for the award as a way of "turning a harsh spotlight on itself" (*Business Week*, 1991, p. 58). Although it did not win, the company used examiners' feedback to develop valuable new practices in worker training and sources of truckers' complaints. Defect rates fell from 10 percent to 1 percent in two years.

#### A. Changes in the Baldrige Criteria

This award is useful for spreading quality techniques but could be improved. The International Standards Organization's proposed quality standards (ISO 9000 series) are being widely adopted, particularly by the European Union. Thus, any U.S. certification should be made compatible with ISO 9000 so as to reduce the costs of complying with both.

Moreover, the Baldrige criteria give insufficient emphasis to human resource practices, including training and employee involvement, allotting them only 15 percent of total points. Typically, winners have a high-skill workforce, with high levels of employee involvement and trust (Appelbaum and Batt, 1994). The award should increase its emphasis on human resource practices, which are so essential for quality programs' success. These policies should be designed to be particularly valuable to a company that is serious about employee involvement but costly to companies just going through the

motions. For example, points should be awarded to companies with: (i) one or more employees on the board of directors, (ii) an employee relations committee at each establishment, (iii) health and safety committees at each establishment, (iv) an employee stock-ownership or profit-sharing plan, (v) no labor law violations, and (vi) formal procedures for dispute resolution (Levine, 1995).

#### B. Benefits of National Quality Certification for Suppliers

While the Baldrige application procedure should benefit the companies themselves, the scores also would aid government purchasing decisions. Fear of favoritism and corruption now constrains procurement offices to rely almost entirely on price in choosing suppliers, thereby ignoring suppliers reputations for quality, on-time delivery, and so forth (Kelman, 1990; Leone, 1986, p. 183). The Baldrige ratings provide an objective criteria that would permit purchasing departments to incorporate nonprice factors.

Companies with high Baldrige scores should command a small price premium above competitors with lower ratings. (The government already uses similar price differentials to encourage purchases from small businesses or those with minority or female owners.) The increase in quality would more than repay a small price difference. Adoption of TQM eventually should produce lower costs as well as higher quality. However, the price premium provides an additional incentive for firms to endure the long payback period. For example, the Madison city government found that repairing broken-down city vehicles required an average of nine days in part because the parts department found it impossible to keep in stock components for each of the 440 types of vehicles the city owned. The city owned so many models because its policy was to buy the model with the lowest sticker

price on the date of purchase (Sensenbrenner, 1991).

In requiring its large suppliers to apply for quality certification, the government would simply adopt a practice already used by successful companies. Toyota has long required its first-tier suppliers to apply for the Deming Award, Japan's highest prize for quality, and has recently extended this requirement to its second-tier suppliers. Following this example, several U.S. companies have begun requiring their suppliers to apply for the Baldrige (GAO, 1991, p. 35).

Standardizing certification would reduce the current cost burden on companies that must satisfy government agencies, many of which now have their own supplier certification programs, each with different hoops to jump through. Government units with special requirements (like NASA, which emphasizes reliability) may want higher standards for their suppliers in some areas. Even so, the unified framework would lower costs by standardizing measurements of reliability and so on.

#### C. *Baldrige as Public Certification*

The Baldrige program would be even more useful if company scores were publicly available because the certification credibly indicates companies' quality and flexibility.<sup>2</sup> (For example, because Ford's quality program has a good reputation, suppliers who win Ford's 'Q1' certification advertise their status.) Certification can alleviate the market failure caused by the cost of evaluating supplier quality. A national rating of quality efforts would reduce the costs of all businesses buying from companies in the United States.

Publicizing companies' success on human resource issues would relieve seri-

2. Publicizing scores, clarifying judging procedures, and making requirements as objective as possible would help reduce suspicion that political factors exercise undue influence over the judges' decisions.

ous information problems for potential employees and owners. When the Federal Aviation Administration began publishing on-time statistics, airlines immediately began improving the proportion of their flights that arrived on schedule. Similarly, publishing companies' training and employee satisfaction ratings would raise labor-market efficiency by enabling workers to choose a company that fits their needs. In addition, this information would give stockholders better measures of how well managers are investing in human resources—a key asset of the enterprise (Levine and Tyson, 1990).

Finally, certification programs would increase customers' payoff from long-term supplier relations since suppliers with well-trained employees can better respond to customer suggestions. Long-term relations with customers would enable supplier firms to bear the higher fixed costs involved in running high-skill workplaces.

#### D. *Additional Considerations*

Like employee certification, supplier certification is only a start. The government also should pursue other policies to lower the costs of high-quality supplier relations. For example, manufacturing services modeled after the Agricultural Extension Service could help firms implement quality-assurance methods that would raise their Baldrige ratings (Shapira, 1991). Besides this direct service, government agencies could help organize firms into self-help networks to increase small firms' quality and productivity (Sabel, 1992).

### VI. CONCLUSIONS

Although total quality management is not a panacea, it offers powerful tools for improving the living standards of all Americans. The U.S. government often adopts "best-practice" management techniques from the private sector, and a na-

tional quality program merely would continue this sensible approach. Such a program does not require lengthy legislative enactment. A few executive orders could substantially restructure how government and business do business. Progress could be accelerated by using already-existing organizations like the Federal Quality Institute and a revitalized Bureau of Labor-Management Cooperation.

#### A. TQM's Effects on Workers

A national quality program promises more than good management. For a decade, debate has raged on how to create more "good jobs" in the American economy. TQM draws on workers' energy and skills. Correctly implemented, it could increase greatly both wages and worker satisfaction.

A TQM focus avoids a common problem with government-subsidized training, which often teaches skills that are routine and useful only to the current employer rather than teaching the advanced skills needed for lifelong improvement of workers' learning and earning capacity (Roditi, 1992). Unlike programs where topics are chosen solely by management, quality certification programs teach general problem-solving skills.

The emphasis on problem-solving skills also would avoid the difficulty faced by other TQM-type programs, which give employees tools to solve the quality and productivity problems of concern to management but also create speed-ups that can decrease workers' wages, safety, and quality of work life (Parker, 1985). Furthermore, workers are not likely to consistently contribute their ideas and energy if the company does not reward them (Levine, 1995).

Organizations that try to combine high autonomy with low rewards are likely to face stiff employee opposition. Management is likely to find it costly to disrespect workers who are trained with total quality

tools and experienced in running meetings. For example, shop-floor workers at Mazda's U.S. plant, dissatisfied with its safety record and work pace, used skills learned in TQM training. They held meetings that used TQM procedures, analyzed root causes, brainstormed possible solutions, and followed the problem-solving steps they had learned. As Mazda managers found, TQM training can be applied to problems chosen by workers, not just those chosen by management (Fucini and Fucini, 1990).

Most TQM programs (like a host of employee-involvement programs before them) are poorly implemented and survive only a few years. These programs generally ask workers for their ideas but give workers neither power nor rewards. A national quality program that supports substantive employee participation could increase productivity while improving Americans' work lives.

#### B. A National Quality Reputation

A government quality program could benefit the entire economy. In a skit a generation ago, Bob Hope pulls a pistol from his pocket and tries to fire it. The trigger clicks repeatedly, but the pistol does not fire. Hope inspects the pistol, then says with a sneer, "Made in Japan." Obviously, Japan's quality image has improved vastly in the intervening 20 years. Now "Made in Japan" is an advertising advantage for Dodge Colt. The reputation of Japanese quality is so strong that customers will pay over a thousand dollars extra to own a Toyota Corolla instead of an almost-identical Chevrolet Geo Prizm, even though both cars are manufactured in the same plant in California.

However, the advantage could shift again. If more companies adopt high-quality production techniques and more U.S. workers increase their skills, this nation could recapture its former eminence. The United States could turn around its declin-

ing quality reputation and base its future competitiveness not on low-wage labor, but on the best workers and products in the world.

#### VII. AFTERWORD

The delay between writing the first draft of an article and its publication can lead to events overtaking authors. Much of this article's proposal for a government-wide quality program is contained in the Clinton administration's reinventing government plans. Unfortunately, short-run political and budget pressures have led the plan to emphasize employment reduction, sometimes overpowering the emphasis on customer- and employee-driven continuous improvement.

Also, the Goals 2000: Educate America Act establishes a blue-ribbon commission to promote creation of voluntary skill standards resembling those discussed in this article. Unfortunately, these standards do not have the merit badge aspect described above, where certifications are built out of generic components if possible. Thus, recipients of a certification in one industry may have difficulty moving to another industry, even if many of the skills (such as problem-solving) are common to both industries.

Finally, preliminary efforts are underway at the Council of Economic Advisers to encourage government procurement officers to consider existing supplier certifications in choosing suppliers.