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The United States' Baldrige Award and Japan's Deming Prize: Two Guidelines for Total Quality Control

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Abstract

The Malcolm Baldrige National Quality Award has become one of the most prestigious and important honors in the United States. It is awarded to companies who consistently deliver high quality products and services to their customers, and have organizational structures, policies, and cultures to support such goals. The Award guidelines form a definition of American-style Total Quality Control. The Baldrige Award follows the long standing tradition of Japan's Deming Prize, which is given to organizations in Japan, and now abroad, which demonstrate excellence in Japanese-style Total Quality Control.

The purpose of this paper is to discuss the goals, criteria, and administration of the Baldrige Award, and then compare them to the Deming Prize with respect to both similarities and differences. In doing so a contrast between the American and Japanese styles of Total Quality Control can be developed. Additionally, comments are made which show why the Baldrige Award is a significant contribution to the practice of quality management.

Introduction

In the search for ways to improve organizational effectiveness companies have begun to focus attention around the United States' Malcolm Baldrige National Quality Award and Japan's Deming Prize. These two awards are among a handful of other national awards, established or in the process of being instituted, whose purpose is to promote Total Quality Control (TQC) as a viable and necessary corporate strategy. To date awards have been established in Australia, Canada, France, Great Britain, and Mexico; additionally, the European Foundation for Quality Management is working to establish the European Quality Award by 1992, the scheduled start of the integrated European market.

The goal of this paper is to discuss the purpose of the Baldrige Award and the Deming Prize, the criteria of evaluation, the evaluation and application processes themselves. Next, the two awards are examined with respect to their similarities and differences. Because the awards are outlines of their respective country's understanding of TQC, the award comparison sheds light on the similarities and differences in the American and Japanese approach to TQC. Finally, we draw insights from studying previous award winners and discuss the broad range of implications brought about by the presence of the Baldrige Award.

The Malcolm Baldrige National Quality Award

History

It had become apparent in the 1980's that U.S. firms were in a weak position compete globally, and that poor quality and productivity were two of the main reasons why (Hayes and Wheelwright, 1984). In a response to these problems, President Reagan signed legislation in 1981 mandating a national conference on productivity. At

the same time, professional groups such as the American Society for Quality Control, the National Advisory Council for Quality, and the American Productivity and Quality Center (APQC) lead cooperative efforts in attempts to raise the nation's consciousness on quality. A series of conferences in 1983 by the APQC ended with a recommendation that a "national quality award, similar to the Deming Prize" should be instituted.

The National Organization for the United States Quality Award, a committee of both private and public sector leaders, drafted the criteria for the award; at the same time, the private sector lobbied for legislation to formalize the award process (Quality Progress, 1986; McDonnell and Hudiburg, 1988; DeCarlo and Sterett, 1990). On August 20, 1987, President Ronald Reagan effectively signed into law the Malcolm Baldrige National Quality Improvement Act of 1987, Public Law 100-107 (Reimann, 1988). The Malcolm Baldrige National Quality Award is named after the late Secretary of Commerce in the Reagan administration, Malcolm Baldrige, who had long been supportive of the creation of a national quality award.

Award Purpose, Structure, and Process

Curt Reimann, director of the Baldrige Program, believes that a fundamental purpose of the Award is to strengthen quality in the U.S.; to him the Award is not an end in itself, but rather a means toward this purpose. At a recent post Award conference ("Quest for Excellence" conference, New York, March 1990) Reimann reiterated four goals related to the Baldrige Award: (a) elevate quality standards throughout the U.S.; (b) create a quality excellence standard for the U.S. used in all organizations; (c) create harmony, communication, and consistency; and (d) foster involvement of people and organizations. The Award Guidelines are spelled out to a level of detail that is intended to provide "a de facto definition of Total Quality for the

U.S." (Reimann, 1990)

The Baldrige Award is open to any "for-profit business or appropriate subsidiary located in the United States." Two awards may be given annually in each of three categories: (a) manufacturing companies, (b) service companies, and (c) small businesses. The process of the Baldrige Award consists of two major parts: a written application, and, for those companies which pass the first stage, site examinations. Scores from competing companies are compared and a maximum of two winners in each category are chosen yearly. In 1988, 66 companies applied, 13 merited site visits, and 3 won--Globe Metallurgical Inc., Motorola, Inc., and the Commercial Nuclear Fuel Division of Westinghouse Electric Corporation; in 1989, 40 companies applied, 10 merited site visits, and 2 won--Milliken and Company and Xerox Business Products and Systems (Main, 1990). The expectation is for an enormous increase in applications in the near future (Stratton, 1990a).

Judges of the written application and subsequent on-site visits evaluate applicants using the Baldrige Award Guidelines, the criteria of which is shown in Table 1 (U.S. Dept. of Commerce, 1990). There are seven distinct Categories, each of which is scored according to that Category's relative importance to successful TQC: (1) Leadership - 10%, (2) Information and Analysis - 6%, (3) Strategic Quality Planning - 9%, (4) Human Resources Utilization - 15%, (5) Quality Assurance or Product and Services - 15%, (6) Quality Results - 15%, and (7) Customer Satisfaction - 30%.

Each Category is further broken down into specific Items, which are also allotted percentages. Each of the 33 Items is evaluated with respect to approach, deployment, and results. In "approach" the judges look for strategies which are prevention based, appropriate and effective use of tools, the techniques and methods used, systematic, integrated and consistent application, self-evaluation for continuous improvement,

decisions based on quantitative information, and the presence of unique and innovative approaches. In "deployment" judges look for appropriate and effective applications to all product and service characteristics, examine all transactions and interactions with customers, suppliers and the public, and evaluate the organizations's internal processes, activities, facilities and employees. In results the judges look at the rate, breadth, and impact of quality levels, the presence of sustained improvement activities, comparisons with industry and world leaders, and demonstration that improvements resulted from total quality.

The 33 Items are drawn out into further detail via 133 "Areas To Address". The Areas to Address are noted in sufficient detail (about a paragraph description each) so as to provide an operational definition of TQC in America.

Changes in the Baldrige Award

The Award itself has a process for continuous improvement in all of its areas. On a yearly basis, the Baldrige Award Committee takes the knowledge gained from its judges, applicants and other interested experts and utilizes it as part of an ongoing feedback loop. There have been significant revisions made in each of the first two years. The overall focus of the Award as defined by the 7 major Categories, however, is unchanged and is intended to be a point of stability for the Award.

There is a noticeable difference in the types of changes made between the 1988 and 1989 versus those made between the 1989 and 1990 Guidelines (U.S. Dept. of Commerce, 1988, 1989, and 1990). The 1989 Guidelines simplified, clarified, and aggregated Examination Items; there were added expectations and definitions in the scoring system, significant changes in the weights allocated to each of the seven major Categories (see Table 2), and a reduction in the number of Examination Items. The 1990

Guidelines continued to clarify and aggregate Items, including some additional changes in the scoring weights, and added information regarding how applicants should prepare responses to Examination Items and how various business factors would be considered in the evaluation process.

Finally, one significant change occurred in the 1989 Guidelines which added more than just clarification. The concept of "Benchmarking" (Camp, 1989) was incorporated into several of the examination Items and indirectly in the scoring system under the criteria: "comparison with industry and world leaders." The word "benchmark" is used 10 times within the examination Items and "Areas To Address", with 7 of these within "Strategic Quality Planning." In addition, the final Item, "Customer Satisfaction Comparison," valued at 5 percent of the total points, falls essentially within the context of benchmarking.

The Deming Application Prize

History

Japan has successfully gone from a country whose economy and industrial base were in shambles after World War II to a true "economic superpower." Japanese goods, once equated with poor craftsmanship and quality, now inundate the U.S. market and have driven many U.S. firms out of business. A number of different theories--ranging from macro to micro to cultural--have been advanced to explain the success of Japanese companies in penetrating foreign markets. A key theme which has emerged is the relentless pursuit of quality by most successful Japanese companies. The emphasis on quality permeates throughout the Japanese organization and is embodied in the widespread adoption of TQC principles and statistically-based methods within firms and across industries. Positive reinforcement is provided in the form of a national

award--the Deming Prize.

The Deming Prize, established in 1951 by the Union of Japanese Scientists and Engineers (JUSE), serves to recognize achievements in quality and show appreciation to W. Edwards Deming. Deming, an American statistician, is credited with bringing statistical quality control techniques to the Japanese and is regarded as a key factor in the rapid recovery of the Japanese economy. In 1950, Deming presented his first of many lectures to the Japanese, and a year later, the Deming Prize was established (Koyanagi, 1960). The Deming Prize can be awarded to Japanese companies, overseas companies, small enterprises, divisions, and factories; it makes no distinction between private and public institutions and between manufacturing and service organizations. Between the years of 1951 and 1989, the Deming Application Prize had been awarded 84 times, the small enterprise Award 32 times, the division Award 5 times, the overseas Award once, and the factory Award 12 times. As of September 1986, 27 of Japan's 60 largest industrial corporations had been awarded some form of the Deming Prize (JUSE, 1985). Only recently (in 1987) have regulatory changes been made to allow non-Japanese companies to apply for the Deming Prize (JUSE, 1989); the evaluation process is identical. Florida Power & Light, an American company who won in 1989, is the only overseas company be recognized (Stratton, 1990b).

Purpose, Structure, and Process

According to JUSE (JUSE, 1986), the purpose of the Deming prize is to recognize those companies who have successfully applied TQC, based on statistical quality control. The Deming Medal itself states "The right quality and uniformity are foundations of commerce, prosperity, and peace."

JUSE states "The practice of company wide quality control (read: TQC) in this

case is defined as designing, production, and supply of products or services of a quality demanded by the consumer at an economically acceptable cost, the basic approach being that of customer satisfaction together with a wide attention to public welfare. Also implied is the application of statistical concepts and methods in the train of activities involving studies, research, development, design, purchasing, manufacture, inspection, and sales as well as other related activities..." (JUSE, 1986). The emphasis on the statistical approach is neither trivial nor complete. As Deming says, "One reason for the effective use of statistical methods in Japan...lies in the fact that courses (taught there) distinguish carefully between statistical problems and engineering and consumer problems...Statistical techniques turn the spotlight on the responsibility for actions in various levels and positions. They direct substantive knowledge to the problems where it can be most effective." (Deming, 1960)

The steps involved in the application for the Deming Prize are (JUSE, 1986): (a) application and initial screening, (b) a written "Description of QC Practices" document, and for those companies which pass this stage, (c) site examinations. The site examinations consist of three phases, in the following order: (i) Schedule A, where the applicant presents the main points of their quality program and tours operations sites, (ii) Schedule B, where the inspectors perform on site investigations of locations of their choice, and interrogate people at those sites, and (iii) an interview with the CEO. Each of the units inspected is given a score by the on site inspectors. The Prize Guidelines do not specify scoring procedures; the judges' own expectations and experience weigh heavily in this regard. The final score for each inspected unit (division, etc., and CEO) is computed and the company is awarded the Deming Prize if they receive: (a) 70 percent grade for CEO, (b) 70 percent total grade for company, minus CEO, and (c) minimum 50 percent total for each entity inspected.

JUSE publishes a checklist of Categories which are considered during the evaluation process (JUSE, 1986). Ten Categories break down into 63 Subcategories, as shown in Table 3. Unlike the Baldrige Award, the Subcategories lack further description of recommended practices. It would be wrong to assume that the Deming Prize is simply awarded for the successful application of the Deming theory. Indeed many have noted (Gitlow, 1989) that Japanese TQC has evolved beyond the "Deming Management Method" (Deming, 1986; Walton, 1986), although Deming's teachings are still a part of the "structural foundation."

Analysis of previous Deming Prize winners indicates that the Deming Prize judges are looking for application of current, state-of-the-art Japanese-style TQC. For example, Yokogawa-Hewlett Packard, who was awarded in 1982, emphasized: (a) commitment to continuous improvement, (b) collection of data, (c) clarification of responsibility for action, (d) feedback information from customers, (e) the Shewhart PDCA cycle of improvement (Deming, 1986), and (f) using statistics as a practical tool (Walter, 1983; Mozer, 1984). Florida Power & Light, which was recognized in 1989, instituted three main objectives after several years of consulting with both JUSE and 1984 winner Kansai Electric Power Company: (a) quality teams, (b) policy deployment, and (c) quality in daily work life (Stratton, 1990b). All of these goals match perfectly with the established view of Japanese TQC (Ishikawa, 1989).

A Comparison of the Two Awards

Similarities

The most obvious similarity between the two awards is the prestige associated with each. Besides being highly coveted national quality awards, the awards are also recognized in the international arena. Kohei Suzue, President of JUSE in 1986, noted

(JUSE, 1986) "...the Deming Prize is the most authoritative prize in the field of quality control in Japan, so that it becomes widely recognized... that the products of Deming Prize winning companies are of best quality." Likewise, in a letter enclosed with the 1990 Baldrige Award application, Reimann wrote: "In the short time since its founding, the Award has become one of the most prestigious bestowed upon U.S. businesses. Among the reasons are its demanding standards, the high caliber of its applicants, thorough evaluations by preeminent quality experts, exemplary Award winners, and the interest and participation in the Award presentation by the President of the United States." Others agree with Reimann that the Baldrige Award is the "highest level of recognition for quality that an American company can receive" (DeCarlo and Sterett, 1990).

Second, the two awards are similar in that they were established in response to negative external economic conditions. The Deming Prize, as mentioned earlier, was established after World War II in response to the need to provide a clear understanding and promotion of TQC. The reality of United States' declining manufacturing competitive ability has been well documented in research, and a number of scholars from various disciplines have attempted to identify the causes for such decline (Skinner, 1969; Hayes and Abernathy, 1980; Hayes and Wheelwright, 1984; Deming, 1975; Deming, 1982; Hayes, Wheelwright, and Clark, 1988; Hickok, Bell, and Ceglowski, 1988). Always noted is the poor quality in many American products and subsequent lack of competitive ability. The parallelism in the circumstances leading to the creation of the two awards in their respective countries is embodied and reflected in the purpose and goals of the awards.

The purpose of the two awards is similar in that they seek to formally recognize firms for their achievements in TQC. In doing so, the awards serve as a vehicle of

raising public awareness about the importance of quality to the health of the national economy. In addition, both awards stipulate that winners need to be prepared to disseminate information about their strategies and practices to others. The 1990 Baldrige Guidelines specifically indicate that it promotes "sharing of information on successful quality strategies and on the benefits derived from implementation of these strategies... recipients are expected to share information about their successful quality strategies with other U.S. organizations."

Fourth, the structural designs of the two awards allow firms to perform a self-audit of the entire organization along similar criteria. Indeed, many companies use the Award Guidelines as a corporate standard (Main, 1990; Labovitz and Chang, 1990). Both awards examine areas such as policy formulation process, employee awareness of policy, employee involvement and training, data collection and dissemination (Bush and Dooley, 1989). More important, however, is the coalescence of normative practices of quality management. The similarities in the examination items of the Baldrige Award and the Deming Prize are indicative of a convergence of beliefs as to what successful TQC is and how it can be assessed.

Differences

Differences between the two awards are both deliberate in design (Reimann, 1989) and a function of the differences between American and Japanese views of TQC (Bush and Dooley, 1989). The Deming Prize Guidelines were established 30 years ago and have implicitly evolved along with the current understanding of Japanese TQC. As mentioned earlier, the Baldrige Award Guidelines were designed in part from the Deming Prize Guidelines. Additional input from private and public sector leaders led to a formalization of the Award criteria in the late 1980's, and therefore the Award

explicitly reflects the most current beliefs on American TQC.

The most obvious difference in the award criteria is the emphasis on statistical methods. Six of the ten Categories of the Deming Prize include the subcategory of "Utilization of statistical methods"; the Baldrige Award states "evaluations do not depend... on whether or not the company... uses particular techniques to analyze data." The Baldrige Guidelines uses the word "statistics" only once, in an Areas to Address section for "Quality Education and Training". This reflects the American TQC point of view, contrary to the Japanese, that the use of specific statistical techniques is a tactical rather than strategic issue. The widespread use of statistics, however, is apparent in previous Baldrige winners. Motorola's efforts included the system-wide goal of "six sigma" quality, referring to the goal of defect rates at or below 0.003; they also made heavy use of design of experiments techniques (Bhote, 1989). Much of Globe Metallurgical's success also stemmed from the use of statistical process control, and Westinghouse's Commercial Nuclear Fuel Division used statistical techniques to track progress in 60 crucial areas (Bacon, 1989).

Another interesting difference exists in the area of benchmarking. The Baldrige Award explicitly details the use of benchmarking as a strategic tool in many phases of the quality effort. The Deming Prize Guidelines do not mention the concept. However, analysis of previous winners shows that benchmarking is thought to be extremely important. Florida Power & Light modeled much of its effort around Kansai Electric Power Company; additionally, policy deployment (Tribus, 1984) and quality function deployment, both of which use benchmarking, are considered "staples" of Japanese TQC (Imai, 1986). Hence, benchmarking is explicit to the Baldrige Award, implicit to the Deming Prize.

The Baldrige Award weighs 30 percent of its evaluation on "Customer

Satisfaction." This is a deliberate and explicit distinction from the Deming Prize, whose Guidelines conspicuously do not contain, anywhere, the word "customer." The major aspects of Japanese TQC, however, are all defined relative to the customer. Additionally, Deming's definition of quality is relative to the customer (Deming, 1986), and previous Deming Prize winners show heavy emphasis on customer (Labovitz and Chang, 1990). Therefore "customer" must be interpreted implicitly within the all of the Deming Prize Guidelines.

The Baldrige Award is designed as a detailed guide to the necessary components of TQC; the Guidelines themselves serve as a blueprint for organizational improvement. While companies which do not win are given detailed diagnoses of their strengths and weaknesses, first-time applicants do not receive direct help from the Baldrige Award Committee, which is bound to a non-partisan role. Because the people who will evaluate the company with respect to the Guidelines are unattached to people who may advise the company in its goal to meet the Guidelines, the Guidelines must be specific. The Deming Prize Guidelines can be less specific because JUSE, who evaluates Prize applicants, is allowed to enter into a direct consultive relationship with the organization.

A final distinction between the awards is that of competition. The Baldrige Award allows a maximum of two winners annually in each of its three categories. The Deming Prize, on the other hand, can be given to as many companies as meet the given standard; this has averaged out over the years to 3 per year.

Research Conclusions

American TQC versus Japanese TQC

At the onset of the paper we hypothesized that a comparison of the Baldrige

Award and Deming Prize Guidelines may indicate differences in American and Japanese views of TQC. Is there really that much of a difference between Japanese TQC and American TQC? Let us revisit the definition of TQC, according to the relevant sources. Armand Feigenbaum first introduced the concept of TQC in the 1950's (Feigenbaum, 1983):

"Total quality control may be defined as an effective system for integrating the quality-development, quality-maintenance, and quality-improvement efforts of the various groups in an organization so as to enable marketing, engineering, production, and service at the most economical levels which allow for full customer satisfaction."

Now contrast that with JUSE's definition (JUSE, 1986):

"The practice of company wide quality control... is defined as designing, production, and supply of products or services of a quality demanded by the consumer at an economically acceptable cost, the basic approach being that of customer satisfaction together with a wide attention to public welfare."

On the surface there only appears to be one difference. The Japanese definition makes mention of "public welfare", which conceptually matches Taguchi's definition of quality as "loss imparted to society". The American definition makes no mention of "society"; the Baldrige award does have, however, 2 percent of its total points allocated to "Public Responsibility".

The concepts of TQC have been, and will continue to be, evolutionary. Up until very recently American organizations tended to take a very functional approach to TQC. Indeed, the Japanese specifically adopted company wide quality control (CWQC) as a banner rather than TQC because they thought that American TQC was too functionally oriented (Imai, 1986). In recent years the American view of TQC has

greatly broadened, getting closer to the Japanese view; consider the following statements by Feigenbaum (Karabatsos, 1990): "Quality is not a technical program, department, or awareness program...good management means continuous and relentless emphasis on quality through personal leadership in mobilizing the knowledge, skills, and positive attitudes of everyone...quality is a way of managing an organization." The similarities between the award Guidelines further demonstrate the current similarity between the two schools of thought.

Another area where the two ideologies seem to differ is in the use of statistical methods. Many American TQC leaders have varying opinions on the manner in which statistical methods should be used, and whether the use of particular techniques is a tactical or strategic issue. This is in contrast to Japanese TQC where statistical techniques, and more specifically the "seven QC tools" (Walton, 1986), are viewed as necessary. These differences seem to be fading however. Training in statistical methods, and integration of these methods into continual improvement activities, is becoming widespread.

American TQC is just beginning to adopt some of the "planning" concepts of Japanese TQC. Quality planning directly comprises only 9 percent of the Baldrige Award points. As a contrast, a study of Deming Prize winners (Labovitz and Chang, 1990) stated the strongest similarity among the winning companies was they had all laid out their quality program via a plan heavily detailed in both structure and schedule. It is likely in the future that the significance of quality planning within the Baldrige award will increase. The increased interest on the part of American firms concerning such subjects as design of experiments, quality strategy, and the "seven new QC tools" shows that planning is becoming an essential ingredient to success, as well it should. It is only through planning, rather than problem solving, that the "system" and

its interacting components can be treated simultaneously. In order to successfully implement quality planning American firms will be challenged to invent better ways to ensure that corporate objectives are understood and utilized in everyday decision making situations.

In summary then, it appears that American TQC and Japanese TQC are really not all that different. Japanese TQC tends to explicitly place emphasis on particular techniques, such as statistical process control and policy deployment, whereas American TQC tends to treat specific techniques as tactical rather than strategic. The strategies, as outlined in practice, research, and the Award Guidelines, seem to be relatively alike. As we head towards the next century, it is entirely likely that differences in quality management approaches between the two countries will be minimal, driven only by differences in environment.

The differences in environment are not trivial. Ishikawa (1989) correctly states that the West, as compared to Japan, must adopt their TQC efforts around several factors: (a) quality concepts are not taught (or practiced) in a large variety of disciplines, (b) labor union conditions are different, (c) high turnover rates and layoffs are present, (d) merit based pay systems are present, and (e) various factors (such as stock share value) over-emphasize short term strategies.

Implications of the Awards

While some may consider the awards a passing interest, others believe the awards serve as a basis for revitalization of industry, for total quality management, and for continuous quality improvement. Juran stated ("Quest for Excellence" conference, New York, March 1990) that the Baldrige Award process is a "new force that has come over the horizon in two short years", it has "grown in stature and influence to a degree which is unprecedented", and has "become the rallying point for U. S. industry." Our understanding and research leads us to accept this view, and be optimistic about the future of the awards and their impact on quality and organizational performance.

American industrial and government leaders must consider carefully the richness of experience being stimulated and communicated regarding quality and quality management. At the very least the awards, and particularly the Baldrige Award within the U. S., provide a view of excellence--a "de facto definition of Total Quality for the U.S." But also the awards provide a prediction of competition in the future, and certainly some very important implications for managing quality within the firm. The following provides an overview of the implications of the Baldrige Award to American Industry.

Perhaps the largest contribution, and the most significant implication of the Award, is the definition of TQC that it has provided. TQC has been an important yet ambiguous term for many years. The categories and criteria within the Award have sharpened the necessary elements and detail required to understand and manage TQC (Reimann, 1988b). Juran comments that the Award has served to contrast little "q" and big "Q". Little "q" is narrow view of product quality and quality control; big "Q" on the other hand involves the entirety of organizational quality: product, service, process, customers, suppliers, and associates.

Clearly the Award has raised the awareness of the TQC challenge throughout the country, and further has served to heighten the expectations that customers and organizations have of one another. Motorola's bold mandate to its suppliers to plan or instigate application for the Award is vivid illustration of these expectations. Additionally the Award highlights the importance of the customer through its guidelines. Several winners have strived, and continue to strive, toward the objective of 100% customer satisfaction. The Award illustrates the importance of connection to customer of all parts of organizational processes.

The Award process, and the inherent quality improvement process within the applicant firms, has demonstrated an almost revolutionary pace of improvement (Quality Progress, 1989; Stratton, 1989; Glover, 1989; Bhote, 1989). The reported productivity improvements and the breadth of effort and organizational involvement have been extraordinary. Milliken reported over 200,000 opportunities for improvement, and well over 1000 projects for 1989. The Award winners have illustrated the potential for effective corporate wide continuous improvement with goals that are challenging and require the intellect of all the workforce.

Kearns of Xerox suggests that competition will only get better, and even given their tremendous accomplishments to date, he challenges and expects his organization to further reduce new product lead time by 12 months, an additional four-fold increase in reliability of their products, and a 50 percent reduction in unit manufacturing costs. To Kearns Xerox is in a continuous improvement race without a finish (Kearns, 1989). He makes the point that excellent product and service quality of today won't even make in the finals in the 1990's. The message and challenge of continuous improvement is clear. In a very real way the winners are "bell-weather" in their prediction of what it will take to compete in the future.

The Baldrige Award seeks to enhance the knowledge base of organizations through several levels of information transfer: for the applicant itself, for wider industry, and for global industry. Milliken reports feedback from an earlier submission was instrumental to later achieving success in the Award process. Perhaps more importantly is the goal of sharing the philosophies, approaches, and methods of excellent practice to wider industry. Post Award conferences are helpful in this regard but much more needs to be done. All too often the communication concentrates on results and not on process leading to results. Finally, there is the global information transfer. The various awards being developed around the world, and their evolution, could be very instrumental toward consensus criteria that may well become the normative practice of quality.

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Table 1 Criteria for Baldrige Award

1. Leadership
 - a. Senior executive leadership
 - b. Quality values
 - c. Management of quality
 - d. Public responsibility

2. Information and analysis
 - a. Scope and management of quality data and information
 - b. Analysis of quality data and information

3. Strategic quality planning
 - a. Strategic quality planning process
 - b. Quality leadership indicators in planning
 - c. Quality priorities

4. Human resource utilization
 - a. Human resource management
 - b. Employee involvement
 - c. Quality education and training
 - d. Employee recognition and performance measurement
 - e. Employee well-being and morale

5. Quality assurance of products and services
 - a. Design and introduction of quality products and services
 - b. Process and quality control
 - c. Continuous improvement of processes, products and services
 - d. Quality assessment
 - e. Documentation
 - f. Quality assurance, assessment and improvement of support services and business processes
 - g. Quality assurance, assessment and improvement of suppliers

6. Quality Results
 - a. Quality of products and services
 - b. Comparison of quality results
 - c. Business process, operational and support service quality improvement
 - d. Supplier quality improvement

7. Customer Satisfaction
 - a. Knowledge of customer requirements and expectations
 - b. Customer relationship management

- c. Customer service standards
- d. Commitment to customers
- e. Complaint resolution for quality improvement
- f. Customer satisfaction determination
- g. Customer satisfaction results
- h. Customer satisfaction comparison

Table 2 Changes in Scoring of Baldrige Award

	1988	1989	1990
Leadership	150	120	100
Information and Analysis	75	60	60
Strategic Quality Planning	70	80	90
Human Resource Utilization	150	150	150
Quality Assurance	150	140	150
Quality Results	100	150	150
Customer Satisfaction	300	300	300

Table 3: Criteria for Deming Prize

1. Company Policy and Planning

- a. Policies pursued for management, quality, and quality control
- b. Methods for establishing policies
- c. Justifiability and consistency of policies
- d. Utilization of statistical methods
- e. Transmission and diffusion of policies
- f. Review of policies and the results achieved
- g. Relationship of policies and long- and short-term planning

2. Organization and Its Management

- a. Explicitness of the scopes of authority and responsibility
- b. Appropriateness of delegations of authority
- c. Interdivisional cooperation
- d. Committees and their activities
- e. Utilization of staff
- f. Utilization of QC Circle activities
- g. Quality Control Diagnosis

3. Education and Dissemination

- a. Education programs and results
- b. Quality control consciousness, degree of understanding
- c. Teaching of statistical concepts; extent of their dissemination
- d. Grasp of the effectiveness of quality control
- e. Education of organizations related to company
- f. QC Circle Activities
- g. System of suggesting ways of improvements and its actual conditions

4. Collection, Dissemination and Use of Information on Quality

- a. Collection of external information
- b. Transmission of information between divisions
- c. Speed of information transmission (use of computers)
- d. Data processing, statistical analysis of information and utilization of results

5. Analysis

- a. Selection of key problems and themes
- b. Propriety of the analytical approach
- c. Utilization of statistical methods
- d. Linkage with proper technology
- e. Quality analysis, process analysis
- f. Utilization of analytical results
- g. Assertiveness of improvement suggestions

6. Standardization

a. Systemization of standards

b. Method of establishing, revising, and abolishing standard

c. Outcome of the establishment, revision, or abolition of standards

d. Contents of the standards

e. Utilization of statistical methods

f. Accumulation of technology

g. Utilization of standards

Table 2, continued

7. Control (Kanri)

- a. Systems for the control of quality and such related matters as cost and quantity
- b. Control items and control points
- c. Utilization of such statistical control methods
- d. Contribution to performance of QC Circle activities
- e. Actual conditions of control activities
- f. State of matters under control

8. Quality Assurance

- a. Procedure for the development of new products and services
- b. Safety and immunity from product liability
- c. Process design, process analysis, and process control and improvement
- d. Process capability
- e. Instrumentation, gauging, testing, and inspecting
- f. Equipment maintenance, and control of subcontracting and purchasing
- g. Quality assurance system and its audit
- h. Utilization of statistical methods
- i. Evaluation and audit of quality
- j. Actual state of quality assurance

9. Results

- a. Measurement of results
- b. Substantive results in quality, services, delivery, time, cost, profits, safety, environment, etc.
- c. Intangible results
- d. Measures for overcoming defects

10. Planning for the Future

- a. Grasp of the present state of affairs and the concreteness of plan
- b. Measures for overcoming defects
- c. Plans for further advances
- d. Linkage with the long-term plans