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<Feature>

THE DEMING PRIZE

Forty-five years have passed since Deming Application Prize was established. During that time, the examination method has been revised in response to social changes and the advancement of quality control. The definition of quality control as determined by the Deming Prize Committee was revised in June 1993, and the examination checklist was modified in October 1994. In 1995 the Deming Application Prize for Small Companies and the Deming Application Prize for Divisions were combined into the Deming Application Prize.

This issue's feature is on The Deming Prize. The last issue of this carried the 1995 recipients of The Deming Prize and constantly JUSE has many inquiries on the topic from abroad. Such as the history of the Prize, past winners, criteria, eligibility and how to apply. To answer these inquiries, the 1996 Deming Prize Guide for Overseas Companies is available now. (Refer to Page 8 for order.) As mentioned above, the Examination Checklist was changed in October 1994 and the former two awards were combined into the Deming Application Prize in 1995. Now the Japan Quality Medal, which companies can apply after five years or more since they won the Deming Application Prize, is open to overseas companies. (The 1996 Japan Quality Medal Guide for Overseas Companies is available. Refer to Page 8 for order.) This issue features The Deming Prize to focus on these modifications and the recent detailed questions and criticisms concerning the Prize.

The followings are figures to help you understand the Prize structurally.

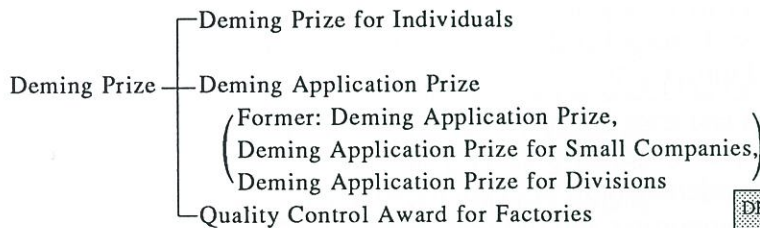


Fig. 1 Categories of Deming Prize

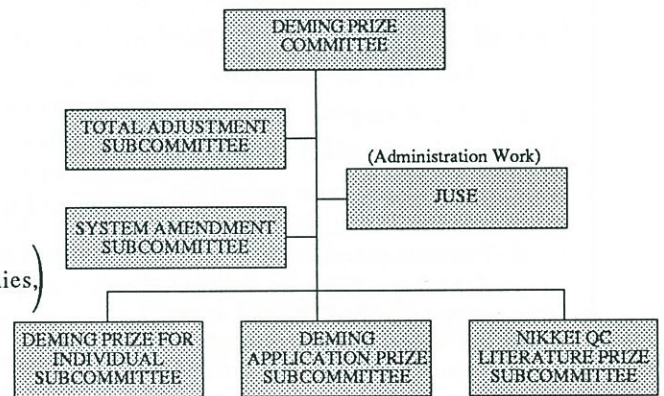


Fig. 2 Structure of Deming Prize Committee

The Deming Prize for Individuals is given to individuals who have made outstanding contributions in the study, application and dissemination of Company-wide Quality Control (CWQC) using statistical methods.

The Deming Application Prize is awarded to companies or divisions of companies that have achieved distinctive performance improvement through the application of CWQC.

The Quality Control Award for Factories is awarded to factories or plants that have achieved distinctive performance improvement through the application of quality control in the pursuit of CWQC.

The Deming Prize Committee has five subcommittees to carry out the Deming Prize examination and other related activities. *The Deming Prize Individuals Subcommittee* examines the candidates for the Deming Prize for Individuals. *The Deming Application Prize Subcommittee* is responsible for examining the applicants for both the Deming Application Prize and the Quality Control Award for Factories. It is also responsible for examining Japan Quality Medal applicants and for conducting the QC Diagnosis. The members of the Deming Application Prize Subcommittee consist of quality control experts drawn from universities, government and other not-for-profit institutions.

The Deming Application Prize Checklist

(compiled by the Deming Application Prize Subcommittee)
revised 1992, 1994

Items	Checking Points
1. Policies	<ul style="list-style-type: none"> (1) Quality and quality control policies and their place in overall business management (2) Clarity of policies (targets and priority measures) (3) Methods and processes for establishing policies (4) Relationship of policies to long- and short- term plans (5) Communication (deployment) of policies, and grasp and management of achieving policies (6) Executives and managers leadership
2. Organization	<ul style="list-style-type: none"> (1) Appropriateness of the organizational structure for quality control and status of employee involvement (2) Clarity of authority and responsibility (3) Status of interdepartmental coordination (4) Status of committee and project team activities (5) Status of staff activities (6) Relationships with associated companies (group companies, vendors, contractors, sales companies, etc.)
3. Information	<ul style="list-style-type: none"> (1) Appropriateness of collecting and communicating external information (2) Appropriateness of collecting and communicating internal information (3) Status of applying statistical techniques to data analysis (4) Appropriateness of information retention (5) Status of utilizing information (6) Status of utilizing computers for data processing
4. Standardization	<ul style="list-style-type: none"> (1) Appropriateness of the system of standards (2) Procedures for establishing, revising and abolishing standards (3) Actual performance in establishing, revising and abolishing standards (4) Contents of standards (5) Status of utilizing and adhering to standards (6) Status of systematically developing, accumulating, handing down and utilizing technologies
5. Human resources development and utilization	<ul style="list-style-type: none"> (1) Education and training plans and their results (2) Status of quality consciousness, consciousness of managing jobs, and understanding of quality control (3) Status of supporting and motivating self-development and self-realization (4) Status of understanding and utilizing statistical concepts and methods (5) Status of QC circle development and improvement suggestions (6) Status of supporting the development of human resources in associated companies

Items	Checking Points
6. Quality assurance activities	<ul style="list-style-type: none"> (1) Status of managing the quality assurance system (2) Status of quality control diagnosis (3) Status of new product and technology development (including quality analysis, quality deployment and design review activities) (4) Status of process control (5) Status of process analysis and process improvement (including process capability studies) (6) Status of inspection, quality evaluation and quality audit (7) Status of managing production equipment, measuring instruments and vendors (8) Status of packaging, storage, transportation, sales and service activities (9) Grasping and responding to product usage, disposal, recovery and recycling (10) Status of quality assurance (11) Grasping of the status of customer satisfaction (12) Status of assuring reliability, safety, product liability and environmental protection
7. Maintenance/control activities	<ul style="list-style-type: none"> (1) Rotation of management (PDCA) cycle (2) Methods for determining control items and their levels (3) In-control situations (status of utilizing control charts and other tools) (4) Status of taking temporary and permanent measures (5) Status of operating management systems for cost, quantity, delivery, etc. (6) Relationship of quality assurance system to other operating management systems
8. Improvement activities	<ul style="list-style-type: none"> (1) Methods of selecting themes (important problems and priority issues) (2) Linkage of analytical methods and intrinsic technology (3) Status of utilizing statistical methods for analysis (4) Utilization of analysis results (5) Status of confirming improvement results and transferring them to maintenance/control activities (6) Contribution of QC circle activities
9. Effects	<ul style="list-style-type: none"> (1) Tangible effects (such as quality, delivery, cost, profit, safety and environment) (2) Intangible effects (3) Methods for measuring and grasping effects (4) Customer satisfaction and employee satisfaction (5) Influence on associated companies (6) Influence on local and international communities
10. Future plans	<ul style="list-style-type: none"> (1) Status of grasping current situations (2) Future plans for improving problems (3) Projection of changes in social environment and customer requirements and future plans based on these projected changes (4) Relationships among management philosophy, vision and long-term plans (5) Continuity of quality control activities (6) Concreteness of future plans

THE DEMING APPLICATION PRIZE Q&A (1)



Shoichi SHIMIZU

Professor Emeritus Nagoya University

Vice Chairman of Deming Application Prize Subcommittee

Q-1: Is it true that small and medium-scale enterprises can no longer apply for the Deming Application Prize?

A-1: No. Only the name of the prize awarded has been unified. Small and medium-scale enterprises as well as corporate departments can apply for the prize as in the past.

Q-2: Why was the name unified? Doesn't that mean that the passing grade is now higher than before, because small and medium-scale enterprises will be judged by the same criteria as big enterprise.?

A-2: As always, the Deming Prize is awarded to enterprises that have attained excellent results by conducting quality control suiting their size and nature. It is not proper that small and medium-scale firms just copy large enterprises, or companies in service industry pursue quality control the same way companies in the manufacturing industry do. Only when an organization devises a quality control method proper for it can noteworthy achievements be expected.

You may wonder then why the Deming Application Prize for Small Companies existed in the past.

No fee is charged to undergo the Deming Prize examination, but firms requesting it are requested to pay the actual expenses, (such as transportation for the examining committee members). when the Deming Application Prize for Small Companies was established, we intended to facilitate more chances to be applied for small and medium-scale firms by waiving the cost incurred. However, this privilege for them was abolished later together with Japanese economic growth. Maybe we should have unified at that time but we combined it with the Deming Application Prize in 1995 because:

- 1) According to the Small and Medium-scale Enterprise Basic Law, the definition of small companies are often quite small in certain lines of business and do not conform to actual cases of the prize winning companies.
- 2) Since the benefit for small-and medium-scale enterprises in the cost incurred was dropped, there was no

longer a need to distinguish the Deming Application Prize for Small Companies from the Deming Application Prize.

- 3) When reference "for Small Companies" is included, people infer that the prize represents a lower level than the Deming Application Prize, and recipients somehow are not fully content even if receiving the award.
- 4) The Deming Application Prize is awarded annually, and as many times as possible. It is not necessary to win the Deming Application Prize for Small Companies before getting the Deming Application Prize. If companies wish, they can try for the Japan Quality Medal five years or more after receiving the Deming Prize.

Q-3: Quality control conducted by a department cannot be called "company-wide quality control." Nevertheless you have decided to give the Deming Prize for it. Have you changed your policy to the effect that the Deming Prize no longer applies to company-wide quality control"?

A-3: No, our policy is not changed. Rules for the past Deming Application Prize for Divisions stipulated that:

- 1) The division has the authority to use manpower, resources and funds freely to enable implement independent management.
- 2) It must have the responsibility and authority to conduct quality assurance consistently.
- 3) It must have the responsibility and authority to produce profit and develop future management policies.

These three conditions have not changed. Recently, the contents of business have grown diversified with management decentralization such as seen in corporate decentralization and independent business departments, or, conversely, unified, as with conglomerates. Not only the manufacturing industry but trading and retail firms now have factories under their direct control. Moreover, companies in the service industry have begun to practice quality control. Although opinion that we should establish a Service Industry Deming Prize was

rendered, we have unified to the Deming Application Prize so that any type of industry can apply for the Prize.

By decentralizing, a corporation, though acknowledged as an independent entity, in fact remains as a part of its parent and cannot be regarded as an operation engaged in company-wide quality control. If such an enterprise undergoes the Deming Prize examination, we will conduct research at its parent firm to make up for the applicant insufficient functions. Conversely, the many corporate divisions are conducting activities similar to company-wide quality control more effectively than decentralized affiliated organizations. To cope with the many and varied situations, we have unified the former three types of categories into one.

Q-4: Why haven't you given points in the Deming Prize examination checklist? (See pages 2 and 3. The Deming Application Prize Checklist.)

A-4: The Deming Prize places importance on effecting quality control suited for the size and the nature of an enterprise, and which features characteristics useful for its management. Giving points to the checklist could force any type of industry to engage in a uniform type of quality control.

For example, although the sixth item of the checklist "quality assurance activities" are necessary for service industry firms in actual practice, 6-(3) status of new product and technology development, 6-(4) status of process control and 6-(5) status of process analysis and process improvement are commonly not implemented. If ten points each are given to these points, they would draw a zero on them. Even in the manufacturing industry, companies that make things only after receiving orders do not develop new products. Thus, firms such as this would get no more than five points for 6-(3). By unifying the prizes we relieved ourselves of these concerns.

We hear that enterprises cannot, or are unwilling to develop a score sheet for themselves, since the checklist does not allot points for this. Even if points are given, these firms cannot produce workable score sheets unless they know the situations in which ten points are given, for instance, or those rating eight or five points. Checklists classified according to type of industry, with points allotted for each item based on a clarified set of standards of could be easily drafted. But now when diversification is been progressing so rapidly, it is extremely hard to do accomplish. We even consider it improper to do so.

This is the very reason we haven't provided for awarding the Deming Prize according to type of industry.

We are not saying that enterprises should not develop their own score sheets. We would rather ask them to promote quality control by creating score sheets after establishing standards for them in advance. Allotting points and setting criteria marking may lead the organizations toward a form of set-piece quality control.

When these firms undergo the Deming Prize exam, we rather recommend them to show the examiners their own scoring standard if they make. Examiners will appreciate that. At present, we are scoring each item on the checklist, taking into account the features and size of the industry and laying stress on each check point. If these firms still puzzle over point allotment, they can assume that 660 points will be a perfect score, ten points for each check point. It is also recommendable that they undergo QC diagnosis by the Deming Prize Committee, although it does not constitute a preliminary Deming Application Prize examination.

Q-5: The Deming Application Prize is hard to challenge as we are not sure how far to promote quality control until passing the exam. Can it be revised into a system whereby a preliminary examination is conducted so that we know our defects, and after successfully making improvements, we can pass it automatically?

A-5: If a firm does not pass the Deming Prize exam once, it is not failure but continued examination status where the examination continues later. After the matters specified by the examination have been improved, the company will pass the exam. If you regard the initial try for the Deming Prize as a preliminary exam, the system becomes the same as that suggested. We have often studied the possibility of establishing a preliminary examination system, but so far the answer is negative. We wish the enterprises to try for the Deming Prize actively without fear of being disqualified or held in reserve. We will never make public the names of companies that have taken the exam or which have continuingly examined.

The opinions of firms that have taken the examination overwhelmingly support the present system. There are many reasons for this. For example, the exam is a one time affair like a school entrance exam, which activates all departments and levels of the aspiring company. They say that if it were only a preliminary test, such remarkable improvement activities could not have been

expected. However, we are always open to the comments that companies have not yet take the Deming Prize exam.

Q-6: Ten items in the checklist seem to enumerate without regularity. How are these items related each other?

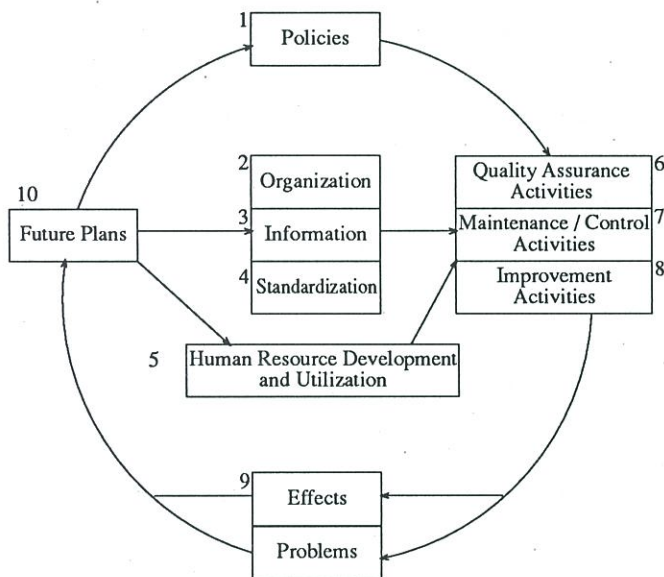


Fig. 3 Relation between Checklist Items

A-6: As shown in Fig 3, based on 1 “Policies,” we check 2 “Organization”, 3 “Information”, 4 “Standardization,” and see what the situation will be in 5 “Human resource development and utilization.” Then, to determine how effectively these efforts are being applied, we look at 6 “Quality assurance activities,” and at the conditions in 7 “Maintenance / control activities,” and 8 “Improvement activities,” in a wider scale. Next, we study how 9 “Effects,” have been obtained as a result of the activities, how well the remaining problems are understood, how they are reflected in 10 “Future plans,” and if they are being tied in with subsequent policies or with improvement of the corporate system.

Q-7: Reportedly the Deming Application Prize is given to an enterprise or its division that has effected company-wide quality control and has attained noteworthy result during the year. Exactly what do the results signify? And to what extent should a firm develop its results?

A-7: This is described in No. 9 “Effects,” on the checklist.

- (1) Tangible effects mean what can be shown by data. The first is Quality. As mentioned in the definition on CWQC in the “Deming Prize Guide”, “Quality refers to usefulness (both functional and psychological), reliability and safety. Also in defining quality, influence on the third parties, society, the environment and future generations must be considered. Next comes delivery. However good a product may be, it will not satisfy customers if delivery requires a long time, or is late. The third is cost. A product should be sold at an attractive price which can turn a reasonable profit. The above three QDC - quality, delivery, cost - are called total quality or integrated quality, the improvement of which creates the fourth category: profit. The fifth category, safety, and sixth, environment, signify an influence both within and beyond the enterprise.
- (2) Intangible effects are is hard to present in figures, but the many firms that have received the Deming Prize show that communication between job hierarchy has been ameliorated, various employee faculties have been upgraded, their will to work has improved, and teamwork at jobsites has solidified.
- (3) As a means to grasp the effects, we recommend a tangible form. Here, we wish to see the kind of method which has been employed to gauge effects. That business results fared for the better cannot be called an effect. Management must turn the PDCA cycle. At the stage of “Plan,” quality of design and method should be set as a pair. At the stage of “Do,” the method formulated during the “Plan” stage should be carried out faithfully. At the “Check” stage, a comparison between quality of design and the results must be made. Here it becomes necessary to compare results with quality of design to determine if the desired effect has been gained. Let us say that a method was employed to boost sales to three times that of the preceding year. If it resulted in only twice as much, it cannot be said that a good effect was achieved. In fact the results would present a problem. Presumably, a lot of time and money went into adopting the method, so we cannot say the method was effective only because things turned out for the better.
- (4) Customer and employee satisfaction are included in the indices of effect because it is annoying to find dissatisfied employees when customers are satisfied.
- (5) It is also annoying to see that firm which have taken the Deming Prize exam are happy, while their affiliates remain in distress.
- (6) The idea is based on the same as (5). Even though

enterprises that vied for the Deming Prize achieved excellent results, they might have inconvenienced the local or international communities. We expect that the degree of their discommoding these communities at least has diminished.

Q-8: The first checklist item merely says “Policies.” Why isn’t it described it as “Policy management”? It is unnecessary to effect policy management?

A-8: The meaning of “Policy management” varies depending on the persons and firms using it, so we avoided the term. When a company effects quality management, it is important to know how the firm determines quality policies or quality management policies as well as how it positions these policies in its administrative scheme. For this reason we have indicated it in (1). Next, (2) and (3) are to confirm whether the contents of policies are clear and by what method or process they were determined. To realize policies, planning is necessary. (4) is to assess the relation between the basic plan and the long term policy or plan, the relationship between the long term plan and annual policies, and that between annual policies and the annual plan. (5) comes under policy management in a narrow sense. Policy is composed of the objective-oriented and measure-oriented types. Reportedly it is better to make the former a target (figure) and the latter a priority measure, presenting them as a pair. When receiving a policy (target and priority measure as a pair) from a superior ranking job category, the subordinate job frames the policy (target and priority measure as a pair) with the process repeated in succession to still lower job grades. This is called policy deployment. In many enterprises, at certain job levels (for instance a section), an implementation plan of their policy is devised, with the policy achieved based on the plan. To draw up or achieve a policy demands that executives or mid-level managers assume leadership. (6) aims to study such a situation.

Q-9: Why does only 6 “Quality assurance activities,” in the checklist have twelve check points? This number is twice that of the other items.

A-9: In the Deming Prize system, we assume that enterprises conduct quality control suiting their own line of endeavor, with no items fixed as indispensable. The checklist was prepared for Deming Prize examination,

but we expect it to be used by firms while promoting company-wide quality control.

When effecting company-wide quality control, quality assurance activities are essential and must rate top priority. We have stressed its importance by increasing the number of check points. Moreover, the many steps of quality assurance such as development of a product to full-scale production plus sales and after service, see the participation of multiple departments, thus requiring an improvement of the overall corporate system. (1) is to observe the status of this. (2) is to confirm whether the firm is conducting quality control diagnosis independently to make sure the system is functioning well. (3) through (9) list the activities in each of the steps described in (1), “Quality assurance system.” That’s why there are more check points in 6. (10) is to find the extent to which quality can be assured by conducting the necessary activities. Customers will be content with a product not because of good quality alone but because its price is just right for their budget. (11) aims to study overall customer satisfaction, including all these factors, the relation with elements that constitute it, and the ratio of constitution. (12) examine the firm’s degree of consideration for dependability, safety, product liability and environmental assessment, which do not relate so closely to quality assurance as do its essentials.

(To be continued in the next issue of Vol.9 No.6)

**Appreciation for all the
Condolences and
Sympathy extended to us
related to the late
Mr. Junji Noguchi, former
Managing Director of JUSE**

The funeral services for the late Mr. Junji Noguchi was conducted at Reinanzaka Church in Akasaka, Tokyo, on October 17, 1995 by the Union of Japanese Scientists and Engineers, with many people from various fields in attendance. We would like to report this to you through this communication, and at the same time, we would like to express our deep gratitude for the friendship and support that you extended to the late Mr. Noguchi while he was still with us, and for the condolence and kind regard you extended at his funeral.

December 1995

Yoshiro Narabayashi
President
Union of Japanese
Scientists and
Engineers



INVITATION TO INTERNATIONAL CONFERENCE ON QUALITY 1996 YOKOHAMA

— Quality - Key for the 21st Century —

It is a great pleasure to announce that the International Conference on Quality will be held in Yokohama from October 15 to 18, 1996.

The conference will be organized by Union of Japanese Scientists and Engineers (JUSE) in cooperation with International Academy for Quality (IAQ), and supported by American Society for Quality Control (ASQC), European Organization for Quality (EOQ) and Japanese Society for Quality Control (JSQC).

Looking back to twenty six years from now, the first international conference in the field of quality control was held in Tokyo in October 1969 under the auspices of JUSE and coincidentally with this conference IAQ was founded as a world academic body of quality control. It is very meaningful that since then the international conferences have been held triennially, in Washington 1972, Venice 1975, Tokyo 1978, San Francisco 1981, Brighton 1984, Tokyo 1987, San Francisco 1990 and Helsinki 1993. The coming Yokohama conference will be the 10th in this series.

Date	Morning	Afternoon	Evening
Oct. 14 (Mon)	(Conference Registration)		Welcome Cocktail
Oct. 15 (Tue)	Opening Plenary Session		
Oct. 16 (Wed)	Technical Session		
Oct. 17 (Thr)	Technical Session	Closing Session	Farewell Dinner
Oct. 18 (Fri)	Technical Visit to Japanese Companies		

* Post-conference industrial tour : Oct. 19 (Sat) - Oct. 25 (Fri)
 * Family programmes : Oct. 15 (Tue) - Oct. 17 (Fri)

Conference FEE: ¥65,000/person
 (Application before Sep. 25)
 ¥70,000/person
 (Application after Sep. 26)
 Farewell Banquet: ¥12,000/person

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