

THE STRUCTURE OF THE SUPERIORITY OF JAPANESE PRODUCTION MANAGEMENT IN THE WORLD

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Japan's production management has emerged as the finest in the world, and its characteristics may be summarized by six distinctive points:

- 1 Production management performance consisting of quality, time and cost ranking as superior throughout the world (the high standard of production QDC);
- 2 The production management process of development, production and marketing is controlled consistently and unitedly (unification of management process);
- 3 The production management base of facilities, labor and methods is excellent (the superiority of means of production);
- 4 Labor constitution, to include employee morale, is outstanding (the superiority of the constitution of labor);
- 5 The overall systematized production management system ranks as excellent in the abovementioned conditions (outstanding in terms of systematization);
- 6 Innovation for improving production management even more is constantly pursued (superiority in innovation and improvement)

The evolution of production management in Japan during the past forty-five years since the close of World War II can be divided into three periods, each of about fifteen years duration.

The first was an era of groping, which continued until around 1960. During those years American scientific management methods, to include statistical quality control, industrial engineering, operations research and preventive maintenance, were introduced to the surprise of Japan's industrialists and eagerly learned. In addition, American occupational admini-

stration stressed developing these methods, and experts from American universities and industries came to Japan to give guidance.

At that time production in Japan was notorious for imitating, being low in terms of reliability, and for delayed deliveries. It is said that productivity was only an eighth of America's.

It should be noted, though, that those years paved the way for Japan's high economic growth. The priority production policy was adopted from 1946 to 1950, and this led to industrial recovery. The economic policies of the US Occupation laid the foundation for competitive development.

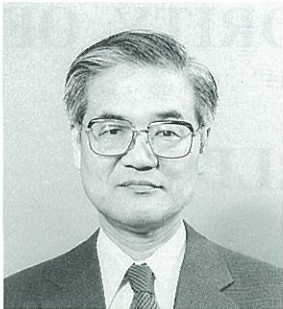
During the first half of the 1950s major militant labor disputes occurred in the electric machinery and appliances, automotive, coal mining, and iron manufacturing industries. Fearing that management itself would break down under severe competition without firm leadership and business rationalization, management became determined not to truckle to labor's uncompromising demands that ignored the principles of economy and guidance, and it finally overcame the disputes.

It might be regarded as historical good fortune that, prior to Japan's period of high economic growth, management resolved hostile industrial relations and out of them established cooperative ones.

Cited as one of the factors which laid the foundations for the ensuing growth of production management in Japan through that era is that numerous men of talent gathered in key realms of industry following World War II. It is cited because the fields of industry a nation specializes in during periods of
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Responses in the 1990s PROMOTION OF TQC AND THE ROLE OF N7

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I Handing down the results of TQC activities

What the author considers the effects of TQC can be grouped into three strata as shown below. The first embodies the results of concentration,

which contributes to increased proceeds from sales and recurring profits; the results derived from improvement, upgraded quality, an increase in the number of new products developed and their sales proceeds, etc. But these benefits stem from the efforts already made; they belong to the past and cannot guarantee future growth.

The results of TQC

Strata	Results
First	Increases in sales proceeds and recurring profits, quality improvement, increased contribution by new products
Second	Fostering individuals with talent, the betterment of proper techniques, a system in which all members participate, harmony within the corporation, vitalization, elevation of creativity
Third	Improvement of devices and education, in particular improvement of the devices that staff members and persons in managerial positions should use

More important than the first above is the second stratum of results. They include the vital fostering of personnel with talent and the upgrading of techniques. It is said that such results helped establish a system in which all members took part, created concord within and vitalized the corporation, and boosted creativity. These effects can be guaranteed over a medium-term period of from five to ten years. In five to ten years, however, there is a strong possibility that talented persons will have retired or resigned from the firm to get a better job, bringing about a situation wherein the majority of personnel in a given department will not have experienced

doing what was necessary to win the Deming Prize. And of course advanced technology will have become very ordinary, this at an increasing tempo as the years pass and new discoveries are made. Under such circumstances, tantamount to stagnation, further TQC progress cannot be expected.

The author believes that the devices established in the course of promoting TQC through to receipt of the Deming Prize plus the education lavished are the guarantee for continuation and activation of TQC over the longterm period. But the devices mentioned herein are not process specification levels. Rather they comprise the devices staff members or persons in managerial positions are required to make the best of; they are not simply system chart. Various charts and clips, manuals and knowhow, as related, correspond to them. A great number of devices are created, including those for developing new merchandise, those of sales divisions, etc. Only in sales divisions can one find the widest variety of devices, such as for collecting and analyzing data on markets and market needs, for seeking prospective new users, for conducting activities which will lead to securing orders from such users, for making routine sales calls, for processing claims and complaints, for selling goods, for introducing new products to the market, for grasping the degree of consumer satisfaction - it goes on and on.

Is on-the-job training (OJT) for new employees and persons freshly transferred into a division enough to properly instruct them regarding the use of devices and how to make the best of them? Are such devices revised after they experience application and their problematic points are clarified? Is the importance of such devices recognized, and are checking and guidance concerning their utilization properly executed in each division even if the general manager is replaced? Is instruction regarding such devices in each important division systematized when training in QC methods is conducted under the name of QC education? The author feels justified in saying that the answers to these questions are generally negative. This being the case, devices once regarded as excellent soon become unsuitable to the operation; stripped of their worth, they must be dropped.

All of this is brought about owing to a lack of understand-

ing that the true results of TQC lie with the devices, and that the effects of improvement are obtained and proper techniques are accumulated in each division through the devices. In other words, it is requested that the importance of the devices should be recognized and ingenuity should be exerted in their implementation (OffJT and OJT).

In short, it is essential to challenge improvement when handing down techniques. It should be noted that making challenges without the process of handing down will fizzle as a fruitless effort; instead it will amount to an onrush toward a theme of improvement with goals and measures printed boldly as slogans and held high... often so high as to be ungraspable.

II Activating TQC activities in the future

In the preceding section the author mentioned the importance of handing down techniques and knowhow through devices in order to maintain TQC activities. Indeed it is important, but TQC activities cannot be vitalized by that alone. Generally, the expectation of managers and executives eager to promote TQC is that all their employees continue to busily engage in TQC even after the Deming Prize has been received, thereby contributing as ever to their own growth and to the progress and prosperity of the company.

By contrast, the author for the past several years has advocated what might be described as the "theory of activating TQC through chaos." This should not be interpreted as wild chaos, but an inspired chaos created within the enterprise while setting and aiming at lofty goals.

Again, the period in which promotion of TQC is most action-packed is that from the introduction of TQC to the time when the Deming Prize is received. Afterwards, TQC activi-

ties usually slow down somewhat in defiance of efforts to prevent this. The process observed by the author is described as follows:

Generally, TQC is introduced under a policy established by the president. Under his guidance the executives get together and decide to challenge the Deming Prize after several years' hard work as an intermediate goal, while TQC will remain in all its glory as eternal among corporate activities. Many firms who do this are of excellent standing. Among the companies that effect good results in their own way, certain devices peculiar to them in relation to quality, the amount of production and the cost factor are utilized, and the returns of such devices are acknowledged. This being the case, it is next urged that improvements should be made via QC methods, and that the devices of policy, management, quality assurance, new product development, and routine control be introduced. And of course the Deming Prize is challenged by obtaining the desired results by the goal date of delivery. A major form of chaos might be stirred within the firm, but only in terms of trying to force the former devices of management to conform to those of QC. The author considers that this type of chaos, which also aims at improvement and progress, can be the source of revitalized TQC activities.

On the contrary, what usually happens after the coveted Deming Prize has been received? Executives say with great conviction that they fully intend to activate TQC even more, zeroing in on winning the Japan Quality Control Medal after five years. What really happens, though, is somewhat different. Because chaos disappears. Executives claim (often after being persuaded) that many of the devices had been systematized before the Deming Prize was awarded. While, in TQC,

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future growth depends on how and where the majority of talented men assemble.

The second period of growth bracketed the years of domestic development, which lasted until about 1975. During those years technical development of the management techniques introduced, their practical application, and their development over production management made remarkable progress, thereby helping to domesticate such imported management techniques.

Productivity rose at an annual rate of about ten percent, with quality and reliability of goods vastly heightened, and delivery of merchandise made on the promised date.

The third period of growth, which has become international, still continues. It has been capsuled as a period in which TQC, JIT and TPM, born in Japan, have been firmly established as production methods of the world.

TQC constitutes an organizational effort in relation to

quality, one embracing all corporate departments and employees under a theme of displaying performance to the fullest and activating work, and which is based on a variety of special techniques developed over the past three decades. JIT features such efforts as related to time, and TPM relates to facilities. TQC, JIT and TPM are forms of management that inspire both management and the workforce to exert themselves for optimum performance and improvement on a never-ending scale aimed at perfection.

Many Japanese firms have advanced managerial innovation by learning, introduction and being influenced by the results achieved by enterprises that preceded them. It might not be too much to say that this movement of managerial innovation in Japan successfully attained the six points shown above, which positioned Japan's industry at the top of the world's superiority scale in terms of production management.

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receiving the Deming Prize is regarded as being handed a diploma at the commencement ceremony of grammar school, TQC on the levels of junior and senior high schools and universities are not even envisioned. TQC leaders, unlike the faculties of ordinary levels of education, do not have separate quality tables that neatly accommodate students working at levels from grade schools through universities. So far, no proposals have been made by researchers in TQC to create a new chaos and generate the energy required to revitalize the promotion of corporate TQC after the Deming Prize has been received and placed on a glassenclosed shelf in the president's office. Evidently such proposals remain something for future presentation.

The disappearance of such a form of chaos is a clearcut cause for the deceleration of TQC. No progress is made if a person simply stands with his or her arms folded while taking up floor space. In order to spur TQC to even greater heights after the Deming Prize has been secured -to progress to secondary school after chucking one's primer- executives should suggest new managerial questions for resolve and create the chaos needed to revitalize TQC in the course of challenging such questions.

In other words, to activate TQC "forever" it is essential to both rear talented personnel and structure devices through the handing down of past results of TQC, as mentioned in the preceding section, and surmount the challenge of managerial questions. In this context, corporate directors play a vital role.

III What is expected of top management and supervisors

1 Understanding the importance of devices

As treated in Section I, the continuous handing down of TQC results is to recognize the importance of devices which should be used by managers and employees, and the importance of an ongoing educational program to train persons newly engaged in whatever the department with respect to the devices.

First of all, it is necessary for top management and individuals under them in supervisory positions to understand the importance of both factors. Based on these fundamentals, the author regards it as vital for corporations that avidly promote TQC and expect to grow in the future to fulfill the following two conditions regarding personnel shifts among managers:

- (a) They must have a mastery of the techniques related to their operation and possess an exceptional degree of leadership.
- (b) They must recognize the importance of the useful devices which already have been structured in the department or division.

Item (a) is naturally required, and it seems that Item (b), in defiance of its magnitude, has been somewhat ignored in the past. Consequently, when the heads of R&D, sales, and

headquarters divisions are transferred, we often find cases wherein the useful devices that have been created as the precipitate of exhaustive processes and discussions down through the years are abandoned or stripped of their content. This situation is regrettable indeed.

2 Well-founded methods of education as regards devices should be established

Process specification constitutes a device to which great importance is attached on the jobsite. In general, if it is not taught or utilized, it will cause deficiencies, misproduction and reduced efficiency. Accordingly, new employees receive training in it over a period lasting from one to several months, after which they are allowed to take charge of their work, provided of course that their ability is acknowledged. The same applies in the case of training employees to be many-faceted. If the hired help cannot understand process specification or lack sufficient experience, deficiencies and failures will crop up almost every day. For that reason devices have generally been established in this realm of endeavor.

This is not the device that the author advocates, though. What he endorses is the sort of device managers and their staff are expected to utilize. In this instance, deficiencies will not appear immediately even when the device is not used. One can feel easy when not utilizing it, even if certain deficiencies occur at a later date. However, many of the operations set in motion by the device involve brainwork. And they are harder to learn or carry out than process specification is. They cannot be conducted by inexperienced personnel who have not received any education relative to what must be done. And there is very little possibility that, even after reading manuals and the like, they will be able to perform as ordered. An educational program at least equal to, or preferably higher than, that for process specification is mandatory. To that end it is essential to exert more personal ingenuity than what is required for education in process specification. QC instructors may give general education in QC and management devices, but teaching the important devices peculiar to a company can be done only by hard-core members of the company.

3 Devices should be utilized

Persons in managerial capacities are expected to promote the use and improvement of devices in their respective departments. For that purpose it is important to determine whether devices are fully utilized as intended and to check on both results and processes. Monitoring of this nature will clarify whether understanding of the devices is deepening, whether they are properly and effectively used, and reveal any problematic points they may have.

In order to realize the foregoing, it becomes essential to clarify which devices should remain in each division as its in-

heritance. Can you answer which sales managing devices will have been handed down after carrying out TQC with a impressive degree of enthusiasm after five full years?

It should be noted that devices as referred to in this text are not only those of a fixed form or related to operations, but devices which support strategic and tactical operations.

4 Top management should know that they are responsible for creating chaos

In order to promote TQC on a permanent basis for the vitalization of an enterprise and be able to look forward to economic growth, it becomes necessary to take up managerial questions as mentioned in Section II and throw into them managerial resources without reserve. It often relates to inexperienced fields, and a new chaos is created if TQC is introduced at such a time. In an age of suffering from lack of manpower (especially in Japan), information systems are being positively promoted as part of managerial resources. Expansion of the quality and quantity of information is sought. Conformity with a variety of former TQC systems is another goal. So, what are the roles and merits of corporate directors? What are the roles and merits of persons who occupy managerial positions? Many and varied questions arise when trying to revise systems in an adaptive manner responding to projected future changes in information.

The author thinks it important for executives to expand their firm's past framework of TQC in response to new managerial questions. It appears that directors tend to set a limit on TQC using the framework of TQC they understand until they receive the Deming Prize and can relax, while only a few of them make efforts to enlarge the framework of TQC according to new and challenging managerial questions.

For example, new business and TQC, local environment and TQC, the rearing of talented employees and TQC, SIS and

TQC, corporate administration abroad and TQC... all are questions considered highly important for companies. They are also important to TQC itself. It is extremely important to develop such questions basing them on TQC thus far acquired, while at the same time expanding and advancing the science of TQC.

In Japan the promotion of TQC encounters certain difficulties in companies and factories where the workers are chummy with each other and a great amount of information is available. Thus it is only natural that several times the effort is needed when establishing operations overseas or developing new forms of business. In this sense the "New Work Way" of Fuji Xerox is being considered as a possible new type of TQC that aims at rearing talented corporate individuals after TQC has taken root firmly. Its target is to rear not only talented persons but those of a higher level in the process, and at introducing that necessary new chaos throughout the entire enterprise while seeking conformity with past TQC methods.

Bearing this in mind, it is believed that first-rate individuals within a corporation should always be assigned to the department responsible for TQC promotion. Things cannot be expected to proceed efficiently when trying to promote QC in, for example, the R&D department if the researchers have greater ability and enjoy the respect and confidence of others more than the QC promoter does. Among corporate researchers there are a number of first-rate individuals who widely know at home as well as abroad. Second-rate individuals are of little or no use when TQC is conducted together with such first-rate researchers.

From the foregoing we can learn that it remains of the utmost importance to make the best use of top-flight, talented persons after the Deming Prize-mirabile dictu!-has finally been received.

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WHAT IS LEADERSHIP IN QC CIRCLES? — Interviews with two female leaders —

[Interview I]

Q: What are the most important points for a leader?

A: Persistence. I'm afraid I may somehow lack it. As a member I sometimes give a free rein to my emotions and tell the men who are members exactly what I think. But I remember what my leader did for me, so I engage in the operation trying not to lose my patience and to help make the other members understand.

Q: Is there anything you must always bear in mind as a leader?

A: I always make an effort to do anything regardless of whether I can actually do it or not. The members will certainly understand, if I

continue to make efforts. For instance, they want to stay with me to offer their help. Another thing is to make thorough preparations for meetings. Because if you don't, there will be too much wasted talk during them. Oh, and one more thing: Make it a point to always be one step ahead and take a broad view of things.

Q: Then, what do you make efforts for?

A: The men who are members do most of the talking, the older ones, that is; the ones in their teens don't say much. They sometimes pretend that they have understood though they actually haven't. So when following up after the meetings, I try to instruct them in

what they haven't understood.

Q: Is there anything that makes you happy in the relations with your members?

A: Once while I was in doubt about how to make contact with a nineteen year old girl who had become a member, I started speaking to her. And she worked hard overtime and on her days off to prepare a presentation. Later she moved to another circle and she said to me, "It was the first time that I ever tried so hard, but it made me feel good." I'll never forget how pleased I was to hear that. I'm sure that those who don't understand well how to solve problems will follow me if they receive good instruction in the ways and procedures for solving problems.

Q: Is there anyone who influenced your leadership?

A: Yes. She was a female leader when I was a new employee. She was a very gentle person and took good care of the others. I thought she was the sort of person I would like to become. Another was a man who treated me kindly and encouraged me when I had a hard time as a new employee.

Q: Are there any specific goals you have in mind?

A: I would like to be able to understand the hearts of others and develop a discerning eye that will allow me to accept them as if they were me.

Q: Do you have any advice for those who are working hard as, or to become, a leader?

A: A person may experience anxiety or doubt as to how to fulfill his or her responsibilities when becoming a leader, but I believe the most important point is to try no matter what. A person will never progress if only wondering, "Should I do it this way or that way?". It is also important to be in the company of one's members and work with them, instead of just posing as a leader.

Q: Lastly, will you tell us if there is anything you are now studying?

A: Well, I'm always happy to learn something at work or in the circle. But I'd like to know more about human relations. So I'm working hard to pass the skill examination for secretaries, and that may enable me to learn about them.

CONCLUSION: Thank you. You described yourself as being impatient and somewhat fickle, but I don't believe that you are. I'm sure you're an excellent leader in all ways toward your employees, particularly toward new employees; and you have a strong will and eagerness when it comes to developing yourself further, and of course you have a very strong sense of responsibility.

[Interview II]

Q: How would you describe your leadership?

A: First of all, I'm not particularly aware of myself as a woman, since I work at a place and lead a circle in which all the members are women. For that reason I'm afraid I lack the feminine thoughtfulness or tenderness that outsiders think I should have. I guess I'm the type of woman who says what I think and leads others positively.

Q: Is there anything that you always bear in mind as a leader?

A: I became a leader one and a half years after I joined the company.

There were older employees among my circle's members, and it wasn't easy to make them understand my way of doing things. So I asked each of them to submit at least two proposals for improvement per month, and in order to make them do that I submitted more proposals per month than any other member. Another point is to make things pleasant. When I was still an ordinary member, I thought it pleasing to just idly chat at the meetings. But everyone became silent when it came to discussing the theme of the meeting. It taught me not to make the meetings stiff and formal. I prepare well for every meeting and take the lead in creating friendly and cordial atmosphere.

Q: Is there anything special that made you happy?

A: Once when I was in trouble because I couldn't find a good way to proceed with the theme, and no one would take the responsibility for it, an older employee said to me, "Don't just worry. Ask me. I'll help you all I can." It made me so happy to know that someone cared. Now I'm able to teach others what I learned from my own experiences. As a leader that helps. Anyway, I think that a QC circle having only women as members is better, because they tend to ask others for instructions more easily. Many men can't understand the elaborate devices needed to operate a QC circle.

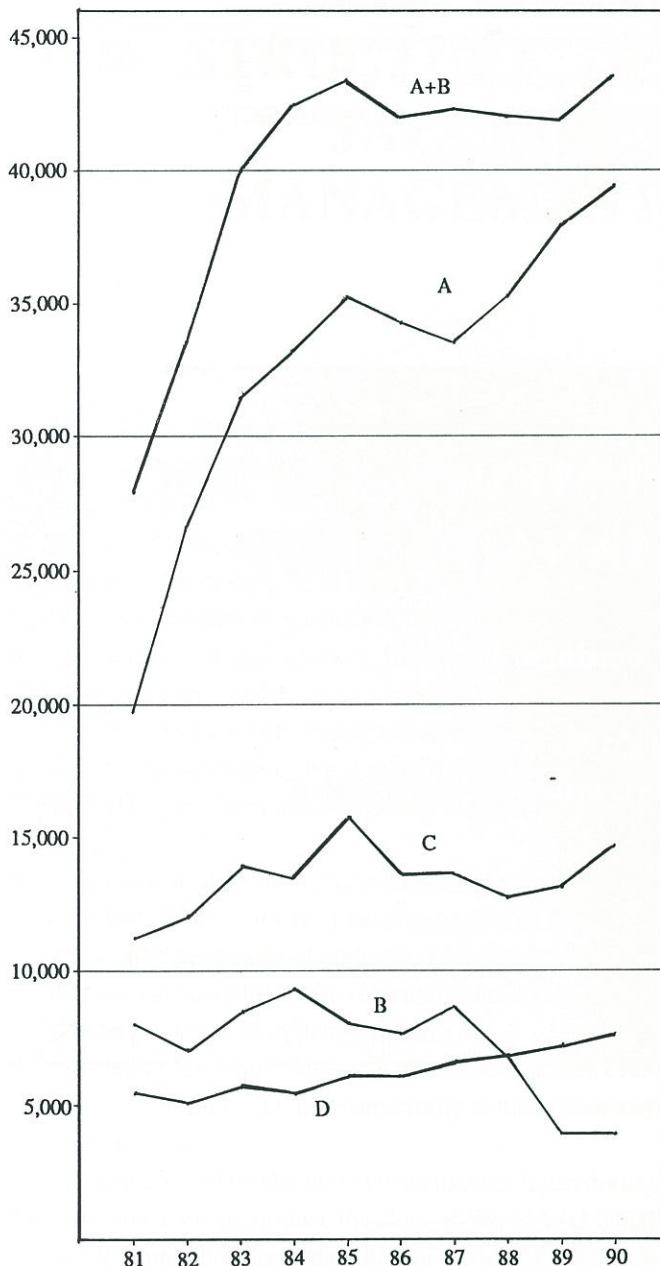
Q: Can you tell us any stories illustrating how you made efforts?

A: What I work for is to prepare a report, or summary, of each meeting well, and to have it ready by the deadline. And I make it a point to have plans fully understood by the other members while I prepare the report. As a means of self-improvement, I train myself in QC methods at the leaders' meeting, study from reference books I buy myself, and if there's anything I don't understand you can be sure I'll ask question about it at the leaders' meeting. In particular, I actively use new methods and with a critical mind of purpose, while instructing the members in line with whatever the meeting topic. And I try to learn, too, from the experiences of other QC circles.

Q: In closing, do you have any advice for leader who are working hard to become better leaders?

A: What I would like them to do, at least, is to create a pleasant working environment. I stress this because there is a vast difference between having a positive attitude while working and working only with reluctance. It shows in the results. This applies to QC circles too. For instance, it's important to create a pleasant and informal atmosphere by serving refreshment before the meeting and enjoying pleasant conversation. It's also important to set an example for the others using one's own initiative. It is essential that each member consider his or her theme and undertake his or her job from that point of view. I would like to see leaders and prospective leaders work while always thinking of possible improvements.

REPORT ON THE NUMBER OF PARTICIPANTS OF JUSE ACTIVITIES IN RECENT 10 YEARS



A: Total number of participants of JUSE regular training and education course (mostly held in Tokyo, Osaka and Nagoya).

B: Total number of participants of internal training course for a company by JUSE instructors.

C: Total number of participants of technical meeting such as annual conferences and symposiums.

D: Total number of attendees of committees.

1. The number of participants to JUSE regular training and education course (A) is making a new record every year after the recovery in 1987.
2. The number of participants for internal course (B) is decreasing from 1987. It seems that reasons of this decrease are
 - to attend JUSE regular course and learn with people from other companies can expect greater effect than to attend internal course.
 - the number of requests from the company to hold a concentrative training course in short term has decreased.
3. Total number of above A and B stayed almost same after 1986, however, it has increased a few.
4. Number of participants (C) of annual technical meeting is keeping almost same figure.
5. The reason that the number of participants at a technical meeting is not increasing is because of the limitation of capacity as well as the lack of convention rooms.
6. Cumulative curves can be seen for the number of attendees (D) at committees. The number of meeting held is min. 646/max. 726 per year from 1981 to 1985, which increased to min. 720/max. 854 per year from 1986 to 1990. The average number of participants for one meeting is 7.9-8.7 and it is still increasing. The figure had recorded 9.0 in 1990.

JUSE is now having a new training center built on the land of about 3,200m², which is located close to Shinjuku. (About 8 minutes ride of subway from Shinjuku Station.) There will be a special room made for overseas visitors, therefore, seminars including International Seminar on TQC will be held at this center after April 1993 when the center opens.

1991 QUALITY MONTH, JAPAN

THEMES

“QUALITY OF A KIND SO GENTLE TO MAN AND HIS EARTH”

“LET’S UNITE IN QUALITY CONTROL AND STAY DYNAMIC!”

SLOGANS

“Think together and build together Quality so tender to our planet”

“When everyone takes part in a QC Circle, everyone plays a starring role”

“QC activities which bring about new richness and freedom in life”

“Let’s promote peace among peoples and nations of the world! Let’s promote QC!”

“High quality is the basis of an animated jobsite”

JUSE INTERNATIONAL SEMINAR ON TQC FOR SENIOR MANAGEMENT

Specially for TQC Coordinators, 1991

Date: October 14 to 18, 1991

Venue: Keio Plaza Intercontinental Hotel, Tokyo

FEE: A: Yen 480,000/person (Twin room)

B: Yen 586,200/person (Single room)

Above fees includes the following:

Lecture note and transportation fees for visits, accommodation fees for eight nights from 13th Sunday to 18th Friday, lunch & refreshments for six seminar days.

These fees do not include dinner for each day.

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