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## “NOW IS THE TIME TO PROVE TQC’S TRUE MERIT”

*from “Total Quality Control”, Vol.43 No.10 (Sep. 1992)*

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Japan’s economy, after the burst of its bubble, seems to have bottomed out. The recession this time, has affected all industrial circles in Japan, and every firm appears to have been hit severely. But looking at it from the opposite point of view, I think that we corporate managers can make good use of the opportunity to reform our business quality and corporate structure.

When we talk about reforming business quality and corporate structure, we must be firmly resolved to carrying out restructuring and destructive creation. Now is the time for us to launch revamping the Japanese brand of managerial ideas. Remolding and a shift in policy is essential right now, not only for private enterprise but also for other levels from government and society at large all the way down to individuals. Being in a competitive society, though, we often find ourselves in a position where it is hard to put restructuring into actual practice. But when doing it, we must be modest yet brave. I think we’re now at a crossroads where we have to decide our future managerial trends.

Some may argue that we lack the capacity, both financially and psychologically, to bother with anything like the Deming Prize in a depression. I disagree. If companies seriously vie to win the Deming Prize, despite the economic climate, they’re the ones who really deserve it.

TQC has been a vital concept for us operators as important business strategy. I’m solidly among those who wish that the restructuring of TQC can be achieved with its strategic goal clearly defined.

The issue of shorter working hours alone, when discussed independently, can’t solve problem of globalization. A

shorter work week will be feasible only in the process of company-wide restructuring efforts where everyone takes part by presenting good ideas. As for customer satisfaction, is it really necessary for us to satisfy our customers’ every demand, and is it all we have to do? From now on manufacturers more and more will be expected to take environmental disruption and dwindling earth resources into consideration, especially when required to maintain an overall balance between the issues at hand and customer satisfaction.

The managerial policy of our company is, “Everyone is expected to work, everyone is expected to manage the firm, and everyone is expected to show creativity based on deep respect for human beings.”

In short, men need free imagination. Creativity is attained through freedom of behavior among individuals (employees). Ideally, a company materializes this in its products and thereby contributes to society. John Stuart Mill, an English philosopher and economist, once said, “Progress is made to the same extent freedom is assured.” Those words are among my favorites. High-grade creativity can be displayed by a firm and its workforce through an expanded sphere of freedom.★

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Study Report on Revitalizing Manufacturing on a Global Scale,  
Global Industrial and Social Progress Research Institute

# “PRODUCTION TECHNOLOGY IN THE JAPANESE MANUFACTURING INDUSTRY”

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(Professor, Tokai University)  
— Sept. 1992 —

## 1. Reconsideration of the objectives of the Study Committee

### The objectives of the Study Committee are:

To discuss how to make use of the unsurpassed system of the Japanese industrial technology which has continued to develop since World War II in order to achieve global economic harmony and growth, how the satisfactory transfer of technology should be conducted for this purpose, and how personnel as well as technological data should be exchanged amid the current crisis in the world's manufacturing industry (previously mentioned).

Even after the inauguration of the Study Committee, the increase in Japan's trade surplus has continued unabated, with the transfer of technology from Japan to the United States, Europe, and South Korea being adopted as an important policy issue. Present conditions are such that the gap in competitiveness between Japanese and foreign makers continues to expand relative to product groups with high added value and large market shares, such as automobiles, electronic equipment, and electronic parts. Despite stepped-up restructuring by overseas makers, recovery and growth remain elusive goals due to the excessively strong competitiveness of Japanese makers.

Along with the objectives cited above and based on the perspective of working out globally applicable principles based on the structure of Japanese makers' production technology and the management methods, this committee has on three occasions received reports concerning the transfer of production technology from Japan's representative manufacturing enterprises to overseas. Discussions have also been held based on such reports. These activities are an attempt to understand the origins of Japanese competitiveness in producing goods, trying to find common factors among Japanese enterprises that have improved the quality of products and reduced costs at their U.S. and European factories.

## 2. Characteristics of Japanese Production Technology

The point described these reports was the gap in the relationship between employer and employee. A Japanese corporation is based on cooperation between labor and management, assuming a management posture that attaches

importance to employees rather than to shareholders. In contrast, there has traditionally been a clear distinction between management and workers at Western enterprises, with management pursuing the interests of shareholders rather than those of employees in full compliance with the fundamental principles of capitalism. In line with these differences, Japanese enterprises provide their employees with an advanced and stable labor environment and do not merely treat them as a labor force or skilled labor force. In addition, there is wide diffusion of the idea that by working for a company, employees can attain self-realization. For this reason, employee morale and motivation is strong. This is in contrast to the West, where the basic concept is that employees are simply a work force or skilled work force and receive wages in direct compensation for their labor. As a result, the employee is usually placed in an environment characterized by a single kind of work, top-to-bottom instructions and supervision, and unstable employment conditions. Their commitment decreases, making it difficult to engineer forward-looking activities. (Needless to say, some countries practice a paternalistic system of management that attaches greater importance to employees. Such enterprises and factories have achieved extremely high productivity)

Excellent communication was pointed out relative to how such a sense of in-house labor-management integrity ties in with the more specific production of goods. As outstanding communication is often pointed out, the idea refers to the birth of a mechanism for a positive mutual interchange of information based on relations of mutual trust in a company. In this respect, “ringi” (group-centered decision making), meetings, and circle activities function effectively.

In addition, such a close interchange of information based on mutual trust is also necessary in the relationship between manufacturing companies and parts makers. In particular, the procurement of outstanding parts is a decidedly important factor for manufactures of automobiles and electronic equipment which comprise numerous parts and components. The general concept was that Japanese makers treat parts makers as extensions of their in-house relationships. Such trustworthy relationships between assembly makers and parts makers ultimately lead to long-standing business relations.



The problem of parts maker affiliations has been viewed critically overseas, focusing on the exclusive nature of these relations, but such business affiliations may actually be a necessity for successfully managing the production of advanced goods. On the other hand, the Western attitude toward suppliers is generally based on distant relationships and marked by one-sided instructions concerning design modifications or cost curtailment as a result of competition with other suppliers.

There were virtually no objections to the point that such a management method (people-oriented management) “peoplism” which attaches importance to in-house human relations, with suppliers or with customers serves as the basis for the high competitiveness of Japanese makers. The point as to how such management methods tie in with highly competitive products may be explained as follows by enlarging upon the points cited in the recent case study. -- By building up a stable human network between labor and management or with suppliers as pointed out above, each individual involved is strongly motivated, resulting in enhanced efficiency in discovering, securing, transmitting and handling information on the part of an organization that handles enormous volumes of information required for such operations as product development, improvement, and cost reduction. By adopting this strategy relative to the important role played by middle management, which is cited as a characteristic of Japanese corporations, such activities as working out plans, making adjustments with related businesses, and undertaking “nemawashi” (group-oriented decision making) — viz., decentralized processing of information carried out speedily and close to sources of information — combine to produce outstanding efficiency. The structure of Japanese makers having such a mechanism serves as the basis for short-term product development and the cycle for so-called continuous improvement, and it is considered the biggest factor behind the high competitiveness of Japanese makers.

In addition to having high efficiency in processing the flow of information, Japanese corporations are strong in accumulating and distributing information within the organization as employees stay with the company for a long period and participate in a lot of group activities. In other words, Japanese companies are equipped with a mechanism to smoothly undertake studies as an organization. Needless to say, studies by an organization can hardly progress solely by streamlining human resources networks inside and outside the company or by relying on problems that actually arise as the subject matter of such studies. By enhancing the skills of each individual in the organization, still higher performance can be achieved. To this end, active and systematic training, such as well-planned in-house training programs and hands-on

guidance for suppliers, has played an important role in achieving greater progress.

Also noted were items concerning awareness / culture, such as a corporate philosophy that attaches importance to customers/technology, an awareness of self-responsibility for quality, and the concept of ongoing improvement. These spiritual factors constitute an important element in determining corporate direction; nevertheless they do not directly contribute toward upgrading products or curtailing costs. Rather it would be appropriate to say that these spiritual factors serve as a foundation for building up a more efficient organization. Another problem that was pointed out focused on the lack of development programs for engineers -- an important management resource in the United States -- on the part of Japanese society as a whole and the low status of engineers in Japan.

(The attached table summarizes the differences between Japan and the West discussed above)

### 3. Universality as a Management Method

Now, the question arises as to whether such a management method is unique to Japanese businesses or whether it can be applied overseas. Based on experience with overseas plants, it is believed possible to build up an overseas organization capable of producing highly competitive products, although considerable time and training would be necessary.

Japanese management methods are thus viewed as universally applicable and can be employed overseas. The opinion was strong that such management methods should be expressed as basic management principles given their highly universal character, rather than as so-called Japanese-style management. (As pointed out previously, many excellent companies in the West adopt management methods that resemble those of Japanese businesses.) The point should also be emphasized that such management methods have never been forced on employees by the corporate side. Once plants in the West built by Japanese enterprises develop a better understanding of such management methods, many employees are likely to support them and take the initiative in participating in such a system.

Regarding the debate over universality, the situation in ASEAN countries serves as a useful reference. Helped by their cultural similarities with Japan, these countries have accepted the new management methods that have accompanied the advance of Japanese enterprises. These methods are now firmly established, leading to an increasing number of businesses with increased productivity and thereby serving as a driving force behind the remarkable economic growth achieved by these countries.

(As a reference material on this point, “Corporate Innovation toward an Open System” by the Japan Committee for Economic Development is quoted)



	Elements of production technology	Elements often seen in Japanese businesses	Elements often seen in Western businesses
Information efficiency	Speed and density of information flow at the production site – Activation of day-to-day improvement activities –	<ul style="list-style-type: none"> <li>* Decentralized processing of information by delegating authority to on-site middle management (Middle-up &amp; middle-down-type management)</li> <li>* Joint ownership of information through in-house release of information, “ringi” (group-centered decision making), meetings and circles</li> </ul>	<ul style="list-style-type: none"> <li>* Top-down type, with instructions given from the job site</li> <li>* Information is saleable and functions as a status symbol; remains in the hands of top management and not provided to the lowest levels</li> </ul>
	Close interchange of information between the production division and other divisions	<ul style="list-style-type: none"> <li>* Formation of a horizontal in-house human network through stable employment and staff rotation</li> <li>* Horizontal project teams</li> <li>* The customer-first principle and market needs are promptly reflected in merchandise</li> </ul>	<ul style="list-style-type: none"> <li>* Personnel affairs are handled by each division and personnel interchange with other divisions is not brisk</li> <li>* A strong inclination toward specialization and likely to choose similar a job at another company rather than a different section at the same company</li> <li>* Does not follow market trends as closely as Japanese companies do</li> </ul>
	A close interchange of information with suppliers	<ul style="list-style-type: none"> <li>* Positive release of information based on a relationship of long-standing mutual trust (business affiliation)</li> <li>* Exchange of information through multiple buyer-supplier channels</li> </ul>	<ul style="list-style-type: none"> <li>* Suppliers are constantly exposed to pressure in the form of price reductions and the cancellation of negotiations. Hence, suppliers have a low awareness of long-term business relations</li> </ul>
	Utilization of past experience and knowhow	<ul style="list-style-type: none"> <li>* Accumulation and inhouse transmission of knowhow due to long-term employment and attaching importance to teamwork</li> <li>* A positive attitude toward learning from past failures (do not simply find out who is responsible for the failures)</li> </ul>	<ul style="list-style-type: none"> <li>* Information is difficult to accumulate because of short-term employment or individual work rather than group units</li> <li>* Do not discuss failure in a positive way, because it might lead to dismissal. Hence, suggestions for improvement are not forthcoming</li> </ul>
Training	Enhancement of knowledge and skills at all production levels	<ul style="list-style-type: none"> <li>* Techniques like the suggestion system, TQC, TPM, etc.</li> <li>* Enhancement of knowledge and skills of on-site workers through in-house training, educational rotation (for workers with versatile skills)</li> <li>* Guidance on production technology through inspections by parts makers</li> </ul>	<ul style="list-style-type: none"> <li>* Single-function workers (hourly wage earners)</li> <li>* Negative toward in-house training (the feeling is that education will encourage workers to change their jobs)</li> <li>* A sense of mistrust concerning inspection by other companies</li> </ul>
Awareness, culture	A strong commitment by management and workers	<ul style="list-style-type: none"> <li>* A thorough awareness of responsibility for quality, delivery, and costs</li> <li>* A sense of trust toward management through stable employment, an organization with few tiers, personnel matters based on seniority, employee-oriented welfare programs, etc.</li> <li>* Sharing a sense of values by fostering a sense of integrity among management and workers and by contributing to and working for society</li> <li>* In-house labor union</li> </ul>	<ul style="list-style-type: none"> <li>* A lack of a sense of responsibility for quality (The concept being that other people will take care of quality checks; this concept runs counter to achieving high quality and low costs)</li> <li>* A clear distinction between management and workers; basically an antagonistic relationship</li> <li>* Trade union</li> </ul>
Competent personnel	Numerous engineers Workers with outstanding skills	<ul style="list-style-type: none"> <li>* Much responsibility is assumed by industrial high schools and university engineering departments</li> <li>* Recruitment plan with an accent on technicians</li> <li>* In-house training and educational personnel policy toward engineers</li> </ul>	<ul style="list-style-type: none"> <li>* A tendency toward the business school rather than the department of engineering</li> <li>* The status of engineers is low in the company, and they are kept away from the job site</li> <li>* In-house education is inadequate; specialized knowledge gained at university is made use of in the right away</li> </ul>
Investment	Making ongoing investments in new technologies, new equipment	<ul style="list-style-type: none"> <li>* Allocation of priority investment funds to technology in line with technology-first corporate philosophy</li> <li>* Long-term profit-oriented strategy</li> </ul>	<ul style="list-style-type: none"> <li>* Importance attached to financial affairs, marketing</li> <li>* In many cases, outdated equipment is used without any modifications to cut costs for the short term</li> </ul>



1992 Winners of  
JAPAN QUALITY CONTROL MEDAL



**AISIN CHEMICAL  
COMPANY LIMITED**  
Manufacturing of  
Automotive Parts  
Employee:825



**TAKENAKA  
CORPORATION**  
General  
Construction  
Employee:11,000

1992 Winner of  
DEMING PRIZE (for Individuals)



**MR. MASAO NEMOTO**  
Counselor (Former President) of  
Toyoda Gosei Co., Ltd.

1992 Winners of  
DEMING APPLICATION PRIZE



**AISAN INDUSTRY  
COMPANY LIMITED**  
Manufacturing of  
Automotive Parts  
Employee:3,276



**JATCO CORPORATION**  
Manufacturing of  
Automotive Automatic  
Transmission  
Employee:2,916

1992 Winners of  
QUALITY CONTROL AWARD FOR FACTORIES



**NISSAN MOTOR  
COMPANY LIMITED  
OPPAMA PLANT**  
Automotive Assembly  
Employee:4,287



**TOPPAN PRINTING  
COMPANY LIMITED  
ELECTRONICS DIVISION  
KUMAMOTO PLANT**  
Manufacturing of  
Color Filter  
Employee:242



## JUSE 6TH INTERNATIONAL SEMINAR ON TQC FOR SENIOR MANAGEMENT

– Sep. 28 - Oct. 2, 1992 –

The 6th International Seminar on TQC for Senior Management 1992 was held for 5 days from September 28 to October 2, at the Hakone Hotel Kowaki-en, which is a famous resort hotel in Hakone, the nearest spa from Tokyo.

The Seminar had 41 participants from 10 Countries over the World and resulted for all participants to understand TQC thoroughly, and to have a good opportunity of case study by visiting a Deming Prize- winning companies. In addition, under tranquil circumstance, they could enjoy healthy spa with a view of Mt. Fuji behind.



## 32ND QC CIRCLE CRUISING SEMINAR VISITS TAIWAN AND HONG KONG

The 32nd JUSE QC Circle Cruising Seminar for 13 days departed on October 1, with 433 trainees, 10 lecturers, and Secretariat members on board.

With the Chartered vessel, "Orient Venus" (22,000 tons), the participants enjoyed their board through some events, and they were divided to take either "QC Circle Leader Course" or "QC Circle Promoter Course".

In Taiwan, the participants visited 11 factories in 11 companies in kaohsiung, where they made presentations and exchanged each experience on QC Circle activities.

After visiting Taiwan, they enjoyed sightseeing in Hong kong.





## 1992 QUALITY MONTH, NOVEMBER IN JAPAN

### Themes

“QC – the key to a better living”

“Superior work through QC”



### SLOGANS

“Let QC help create a life with more leisure”

“Quality leads to better human relations... and to world peace”

“Everyone on the job, each playing a vital role in QC with ideas and innovation”

## JUSE INTERNATIONAL SEMINAR ON TQC FOR SENIOR MANAGEMENT

— SPANISH / PORTUGUESE COURSE —  
WITH INDUSTRIAL VISITS

Data : April 12~16 (Seminar), 19~22 (Plant Visits), 1993

Venue : Tokyo Hilton Hotel (Seminar)

JUSE is planning the above seminar in April next year. All the details as participation fee and Program etc. will be announced later on.

Organized by Union of Japanese Scientists and Engineers (JUSE)

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