Dr. Deming Speaks About Quality in Japan

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Japanese companies don’t depend on automation

Many people talk about automation and about quality in Japan. Automation, that's all right, but the Japanese don’t depend on automation. They learn efficient methods ever and ever. Machinery the hell ! A lot of people in America think that when they will have new machinery they will increase productivity; they are totally wrong. New machinery will only give them new headaches. American industry has not learnt how to use present machinery efficiently ; they have not learnt supervision ; they do not understand improvement of process; they think they will get improvement by investing in new machinery, and what they will get is a new set of headaches, a new set of problems. I have seen so much of it ! But it is not 100 per cent true. There are some industries in America, some isolated plants, they are highly automated, and they have had a devoted work force, and intelligent management and they can make use of automation.

Prerequisites for automation

Automation is not the answer in Japan. Quality and productivity in Japan do not result from automation. You asked me a question about the Japanese achievement’s prerequisites. Yes, some kind of automation can improve quality and reduce cost. Automation requires knowledge about the machines, how to operate them, how to maintain them, how to repair them. Another requirement is to have almost perfect incoming materials. Any defects along the line stops the whole thing. A stoppage for one minute runs up costs, terrifically. Americans forget that. They find it too late. Quality control is more and more important with automation because of the high cost of stoppage. Training people cannot be accomplished, methods of training cannot be understood, when you have no idea about statistical methods. The Americans have not come to that stage yet, they have been out for many years. Here is the road now, as we say in English.

Quality is everybody's job

In France, you said, many questions are asked about Japanese industry and especially about Japanese quality. You asked me what is the main ingredient of Japanese quality. Well, I think I told you that in my speech last night, and in the speech I gave to you the day before yesterday. In the Japanese industry, quality is everybody's job. They cannot get quality with a quality control department only. A quality control department too often in America is a police department, and becomes later a fire department. Quality has to be everybody's job. I think here in France you have some quality control departments that are making quality everybody's job in the plant, and teaching statistical methods to everybody in the plant, and teaching everybody how to use them. Now that's good. We don't have enough of it in America, and I am sure you don’t have enough of it in France.

Lectures with top management

I don't know if I mentioned what happened in Japan with the top management in 1950 and in the 18 visits that I made since. They listened to my talks, about how management can make use of statistical methods in industry all the way from incoming materials to consumer research. I emphasized that the two ends of the line are important points ; incoming materials and the consumer. Without the consumer we don't have any production. The whole world knows how they have done it. Innovation, new products, and improvement of all the products; it's fantastic.

Japanese management uses difficult methods, everywhere. On reception of incoming materials, they do not accept defective materials. They teach vendors quality control. Japanese manufacturers also learnt something that is useful in production, namely to share their manufacturing concerns with all the others ; so the entire industry improves. I taught top management in all my visits, 18 in all, and their eagerness to learn how to use statistical techniques was very great.

Courses for engineers

And of course I taught hundreds of engineers. What happened in Japan in 1950 was an explosion. And different forces came together to make that explosion. One of them was my conferences with top management. The first one was held in 1950. Of course I held others in 1951, 52, 55 and so on. Another force in 1950 was my teaching to engineers, several hundreds of them. Our third force was that in two previous visits I had made it the purpose of life to help the leading Japanese statisticians hold together, to invite them for the evening at my hotel, with some food and something to drink, to tell them how fortunate they could be for the reconstruction of Japan. I had been to Japan for social surveys, reports on the labour force, led by the Census. That is the third force. So when 1950 came, the leading statisticians were ready to teach statistical to hundreds and thousands of engineers. The great JUSE, the Union of Japanese Scientists and Engineers, was ready to expand teaching of statistics for industry, to teach management, to teach engineers. As a matter of fact, JUSE taught, between 1950 and 1970, 15,000 engineers. The courses were rudimentary statistical methods to use in production. They also do give courses, more and more, advanced courses for statisticians, advanced courses of statistics for engineers. And continuously, courses for management. The courses for management are difficult, yet they are booked up for seven months ahead, today. All these four forces came together in 1950 and produced the explosion. And the explosion has continued.

Quality Control Circles

Then about 1960 there was the formalization of Q.C. circles, by Dr. Kaoru Ishikawa. A lot of people in the world talk about Q.C. circles; they don't realize that the environment is right in Japan and may not be right in America or in France. So I think people are going to have problems about Q.C. circles, because they do not have the proper environment for them. In Japan, you see,

everybody works for the company, is in the company for life, the company is his, they are all used to working in groups, and the Q.C. circle formalization is simply Dr Kaoru Ishikawa's method of making the best possible use of this group efforts, that involves Japanese work. They instituted regional meetings so that top management could bring Q.C. circles from a part of the company to another. So they learn if something valuable somewhere may be applied elsewhere.

The Q.C. circles use statistical methods, to understand what problems are important, to measure if their efforts are effective. They need statistical methods, very simple ones, where culture is important, and they work on the most important faults. An now they say they measure the effects of the changes. Now Dr. Ishikawa has brought about regional meetings of Q.C. circles for all kinds of companies, where they talk to one another to show what they have accomplished, in hope that what they have learnt will apply to other companies. And there is a national convention, twice a year. I just attended one, three weeks ago in Tokyo. 1 800 young people, I should imagine about aged 23. Think of it, from industry all over Japan, from all kinds of industry, including construction, printing, railway, manufacturing of all kinds, heavy industry, light industry, electronics. I call them boys and girls, because they are young people, almost always. All of them come together with a great determination, and they are so much involved. They have to tell all these other people what they have done and the pride they put in doing this, the happiness they work with, that's fantastic to me, fascinating.

American management is not looking very far

It's hard for me to imagine that this will happen in America. Maybe... but I don't think so, because in America we don't like long term employment. Management is not looking very far. How could you imagine Q.C. circles working hard on problems of production, in America, when a man who has some business in April has a chance to lose his job in December. How could you have a Q.C. circle made of people we hired and some other that we picked on the streets? How could you imagine they could be really interested in the problems of the company ? I cannot. It may be possible for some companies in America to create employment in which Q.C. circles could be effective, but I think it will take a long time, a large study from the top management. The management has so far not put it up yet. I don’t see it in the future. Could be. But I cannot make any prediction. I can't be so certain of the success.