

Quintessence of Quality Control

Dr. Hitoshi Kume

Amongst all the books that Prof. Ishikawa wrote and JUSE published, there is a book called *Control Charts*. I especially love this book. When I became a student and first went to Prof. Ishikawa, he gave me this book, it's a very thick book, and he told me to read it. I was not really able to understand the book and it was not really interesting to read, but he said that I had to read the book at least three times. So I read the book three times. It was hard, but I did it.

When I look back, this book is a little bit obsolete for people who would like to study control charts, so I am not recommending this book right now; however, between the lines I could read that in order for us to develop Japanese industry, statistical quality control methodology was essential. Here, between the lines, I could feel his passion.

In those days Japanese industry, compared to Western industry, was really lagging behind. There was no statistical QC approach in Japan, but in this book there were many methodologies described and the importance of statistical quality control was passionately discussed in order for us to catch up with the Western world.

Quality control using statistical QC to manage manufacturing processes was described, but as it progressed, the focus started to shift from the statistical method to management. According to Dr. Juran, Japanese quality control caught up with that of the United States in around 1975. And in 1981, *What is TQC* by Prof. Ishikawa was published. In Chapter 6, Prof. Ishikawa said that he studied quality control and by applying quality control properly he thought that we would be able to reform the structure and philosophy of a company. The philosophical revolution of a company might be a bit extreme, but that was what I wanted to focus on in terms of QC.

Quality control is the research and development, manufacturing, and sales and service of products for consumers to purchase with pleasure. The essence of quality control is quality assurance and the development of new products. Those two are the essence of quality control.

First, I would like to talk about quality assurance. Simply put, quality assurance is to assure quality so that consumers can purchase things with a sense of satisfaction and security. It is also to ensure quality for consumers so they can use the products longer. That means that consumers can trust the product or the company for their purpose. Producers have to have a long-term history of having quality products, trustworthy products, and release of their products. This cannot be achieved overnight, but it should

be the long-term effect of efforts to assure quality.

According to ISO 9000, quality assurance is part of quality management and that focuses on assuring quality requirements. According to ISO, quality assurance is only part of quality management; however, Prof. Ishikawa said that quality assurance is an essence of quality control.

In ISO standards, they have to be more logical so they exclude emotion and senses of value, and so their description is pretty insipid. However, there is this definition of meeting quality requirements and that is true, but ISO does not describe in its standards how to ensure quality.

In contrast to that, Prof. Ishikawa's definition is very concrete. Consumers can purchase things with a sense of security. That means that consumers can trust the company and the product for their purpose, and that the producers obtain a long, solid history of releasing products that are trustworthy with quality assured. This cannot be achieved overnight, but it should be the outcome of a long-term effort.

So although it's part of quality control, the definition of ISO and the definition of Dr. Ishikawa are so different in terms of how powerful they are.

Another instance of quality control is new product development. There is no description in ISO standards about new product development. Right after World War II, our efforts in production really started to roll out and the manufacturers were at the center of that. However, of course, starting from product planning, sales, and after-services, the scope of quality control activities were expanded and that became TQC.

On a timely basis, we have to produce products that please consumers, but to sell those products we have to meet the real requirements of consumer through new product development, so quality control should be totally and comprehensively conducted. That should be the essence of quality control.

What is important here is interdepartmental collaboration, and what Prof. Ishikawa always said is that Japanese society has very strong sectionalism that hinders its progress. However, what he wrote in his latter days was that in overseas companies the belief is that the line staff system is effectively conducted in overseas companies and Japanese companies are the only ones who suffer from sectionalism. However, foreign companies also suffer from sectionalism.

One of the purposes of starting TQC in Japan is to break down this sectionalism, a catchphrase like the next processes a customer once coined and also cross-functional management was introduced. However, the situation in Japan is quite common to the situation in other countries.

No matter where they may be, people form groups and erect barriers around themselves, and people have a certain amount of sectionalism. Whether it is a Japanese company or a foreign company, sectionalism is hampering effective organizational activities and this is a common problem not only for Japanese companies but also for foreign companies. So breaking down sectionalism is important for ensuring effective management.

One of the methodologies to do that is cross-functional management. Quality assurance, cost management, and volume or delivery management have to be ensured as the core function of the company. Organizations with strong sectionalism find it difficult to perform effective management of these items, so cross-functional management is to overcome sectionalism to ensure the effective management of these items.

Many Japanese companies have production capabilities outside of Japan, and for many companies the volume of foreign production is larger than the volume of domestic production.

In the past, development was done in Japan and the production process was established in Japanese mother plants. Foreign plants just followed what was developed by the mother plant in Japan. However, the level of foreign companies is being enhanced almost every year so it is foreign companies that are receiving the Deming Prize. In many cases, development by the mother plant is skipped and production is starting directly in overseas plants.

So now quality management must be carried out in a comprehensive manner based on a global standpoint. Quality assurance and new product development are the essence of quality management. This has not changed since the days when Dr. Ishikawa was alive. But when it comes to the practice of TQM, we have to carry out TQM on a global basis. So we need to perhaps review and re-assess the practice of quality management so that it will be relevant into the future.

The purpose of a company is not merely to enhance share prices in order to make a profit. Is the company existing for the institutional investors who are making a short-term profit? Based on the purpose of the company, the evaluation items must be different. The technical advancement and the change of the values will change the form of the company; however, I believe that what is most important is universal. The philosophy of Dr. Ishikawa regarding quality management can be called the philosophy of quality management by Dr. Ishikawa because it provides universal value no matter what the times may be.

Now let's think about what his understanding was of the management of companies. This is what he said about the purpose of the management of companies.

The primary purpose of a company is people. In managing the company, what the people in management have to think about is the happiness of the people that are involved in and related to the company. If people who are related to the company don't feel they are happy, the company is not worthwhile to exist.

The employees have to have the appropriate amount of wages, their humanity must be respected, and they have to be able to lead a decent and happy life. Those employees include the employees and workers of supplier companies, subcontractor companies, as well as of dealership companies.

Secondly, the management of the company has to think about the consumers. The consumers who purchase products and services have to feel satisfied by purchasing those products and services.

Thirdly, the company has to think about its shareholders. Japan has capitalism so companies should be able to have appropriate profits and they have to pay dividends to satisfy the needs of shareholders. These are the values and the *raison d'être* for companies. These are the primary purposes.

The secondary purposes of companies should be filled through quality, price, and volume. First, talking about quality, if there is a defect and shortcomings of a product, that will cause inconveniences for customers and those products will not be purchased by consumers in the first place. Also it is a waste for society. Companies should be able to deliver products with the quality required by its customers.

Also talking about prices, costs, and profits, no matter how high the quality may be, if the price is too high, the product will not be purchased by consumers so the appropriate quality should also be provided at an appropriate price level.

Dr. Ishikawa says that in capitalist countries it is said that the purpose of a company is to make a profit, but that is ill-conceived. He also said that some people call profits an evil but that they are mistaken because if companies cannot make a profit, the company cannot be engaged in development or research, and at the end of the day the company will face bankruptcy, and bankruptcy will cause confusion to society as a result. So while profit-making is not the sole purpose of a company, it should still be able to make some profit.

The third one is volume and delivery. The required volume of a product must be provided and delivered at the promised time. There is purchase volume management, production volume management, inventory management, sales volume management, and also delivery management. If there is excessive inventory, excessive resources are used. That is a waste. Also, at the same time, excessive inventory pushes up costs, but if the inventory is too little, the products cannot meet the demands out there in the market.

So the primary purpose of a company is people, and the secondary purpose is quality, price, and volume. And if these are managed effectively, business management of the company will be successful.

Dr. Ishikawa passed away in 1989, which is a quarter of a century ago. Two years later, in 1991, the economic bubble burst and the 20 years after that we call the “lost two decades” in the Japanese economy and the Japanese manufacturing industry and TQC activities stagnated as a result.

We believe that we can come out of the recession at some point, that restructuring has been carried out in many companies, and that education and training may be suspended. That may undermine the foundation of technical management that has been accumulated by Japanese companies.

And this holds true also for education institutions like universities who have been delivering QC-related education. Advancement of technology and a change of values will make changes to the way that companies are managed, but the core essence of corporate management has stayed the same.

Dr. Ishikawa’s thoughts about quality control can be really called a QC philosophy and that is universal. In order to revive quality management, which stagnated through the lost two decades, I think it is important for us to ensure that as many people as possible appreciate and understand the essence of quality control by Dr. Ishikawa. And the monthly textbook that has been given to you is designed to do just that.

Dr. Ishikawa revived the Japanese manufacturing industry that was devastated during World War II and for that purpose he learned statistical quality control that was developed in the United States. From 1950 to 1970, Dr. Deming and Dr. Juran provided guidance to Japan, and Japanese companies and the Japanese people made great efforts to absorb knowledge from them.

And as a result, in 1980, NBC in the United States televised a documentary entitled “If Japan can ... why can’t we?” Americans and many other people in many other countries then visited Japan to understand more about quality control in Japan.

The quality control of Dr. Ishikawa is not just for Japanese companies, but the QC preached by Dr. Ishikawa has been spread and implemented in many other parts of the world, so his message was disseminated to people throughout the world.

In 1992, P. F. Drucker published *Managing for the Future* and in this book he mentioned the management style in Japan. He said that Japanese companies did not really pursue realization of the profits of any specific group of stakeholders such as the shareholders, and as a result, marketing, innovation, productivity, human resource development, and other management was very effective in Japanese companies

He also said that Japanese companies tied those elements into financial results by combining short-term as well as long-term goals. That is a description of Japanese management before the collapse of the bubble economy.

That description is the appropriate depiction of Dr. Ishikawa's thoughts. He was always emphasizing that the management of a company should be carried out for the purpose of ensuring the happiness of the employees. He did not come up with this idea in an ivory tower of a university, but he came up with this idea through his practice. He said that business management should be based on a long-term perspective, and that was considered to be one of the advantages of Japanese-style management.

Quality management is a means to ensure the long-term, stable management of companies. Now we have to review and re-assess the style of management to see if we are forgetting about anything, and if there is anything we are forgetting we need to make improvements.

With this I would like to conclude my presentation. Thank you very much.