



TenStep Supplemental Paper

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The Quality Evolution in Japan

The Japanese were once believed to be adept at copying.

There was a time, not so long ago in the 1940's when the concept of quality was almost non-existent. The quality movement took almost four decades to become a strong force. It is only now that adherence to quality is believed to yield tangible benefits like reduced costs or increased customers. Today, most managers value the concept of quality.

The new buzzword "Total Quality Management" was merely a way to improve effectiveness, flexibility and competitiveness of a business as a whole. We have a few stalwarts of TQM to thank for making quality such an inherent part of our lives today. One among them was Juran.

Juran is the founder of Juran Institute and Juran Foundation (presently known as Juran Centre at the University of Minnesota in U.S) and brain behind starting the Malcolm Baldrige National Quality Award. He also developed many statistical tools for quality, which are widely in use.

J.M. Juran visited Japan for the first time in 1954. It was a time when there were very few buildings in Tokyo and bicycles the primary means of transportation.

Japan was then perceived as a country, which produced and sold poor quality products. Americans and Europeans looked down on Japanese products since they were convinced that Japanese products were replicas of American and Western design products.

However, Juran observed the seeds of revolution, which would engulf Japan- a revolution that would change the very face of Japan.

Juran had gone to conduct lectures and plant visits. One thing he noticed among the participants of his lectures was the resolve to bring about quality in all their business activities and to produce top class quality products. Their determination was evident from the participation of top industrial managers and CEOs in Juran's lectures.

These managers and CEOs invested in training their employees on quality and its tools. They also ascertained that the lower level of management like the foreman, frontline personnel were involved too. The management also sent some of the teams to visit foreign countries. They would be required to study the approaches followed by other companies globally.

Most of the existing books on quality were written in other languages. A lot of this literature was being translated into Japanese to enable everyone to read and understand them.

The role of Dr. Deming and Japanese Union of Science and Engineers (JUSE) in initiating this interest in Quality in Japan cannot be denied.

Deming was a famous statistician who extended the statistical methodology to introduce the PDCA (Plan, Do, Check, Act) cycle to improve quality. In 1947 the American section

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of industrialists in *Japan* invited him to share his views on quality. His ideologies and thoughts became so popular in Japan that he was asked to return for more lectures.

Apart from Deming, many other coordinators from JUSE (Japanese Union of Science and Engineers) conducted various seminars and courses. They made the Japanese aware of the various quality control tools and principles.

Some key observations

Some observations made in Japan by Juran during this period are.

1. *Focus on quality control tools:* Juran observed that the Japanese focused more on the use of statistical quality control tools and less on the managerial tools for quality control. So did other nations when they began their journey of quality and quality control.
2. *Lack of automation:* Juran noticed that most of the Japanese industries lacked proper technology and mechanisation. He attributed this situation to Japan's economic condition after the Second World War. Automation was a costly investment for the Japanese manufacturers in those days. Moreover, the supply of such advanced technology was very limited. Another important reason why Japan did not go for automation was that it had plenty of cheap labour to sustain production.
3. *Lifetime commitment:* Juran was quite surprised that Japanese workers worked at a faster pace (than those in the west). This was despite the poor working conditions in many of the plants. This commitment and motivation was traced back to the philosophy of lifelong employment prevailing in Japanese companies.
4. *Lack of Educational Institutions:* In those days Japan had the ignominy of being a country, which copied designs and products produced in other countries. This was because Japan lacked the institutions where people could study about the latest developments in technology and design. This in turn resulted in lack of personnel who were capable of designing new products or applying technology for new product development. Within a decade later the situation reversed.

Juran's visit

Juran visited Japan at the end of 1960. During the six years gap Japan had witnessed a sea change. Japan's real estate was beginning to take off with several high-rise buildings, residential complexes and plants.

The standard of living saw a marked increase and Japan was beginning to look like an industrialized nation. Automated equipment was gradually but surely replacing manually operated machines.

Quality too had improved in Japan. Earlier the Japanese laid great emphasis on statistical tools. Now they were beginning to look quality from a bigger perspective. The management of quality was being given great importance.

All levels of management were being trained. Training in quality was not only being offered through seminars but was also being broadcast through the media (radio and television).

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Another important development Juran witnessed was the Deming's prize. Companies were beginning to implement principles on which Deming's award was built. Several nation wide standards were being created not just in terms of product quality and specifications but also the application of quality tools and techniques.

Another development that Juran noticed was the birth of the concept of the company wide involvement in quality. In the western world quality was a prerogative of quality department. In Japan however it was the responsibility of everyone. The top management demonstrated their involvement by conducting and reviewing yearly quality performance. The lower level workforce were made responsible for quality and trained to ensure it. This organization wide involvement in quality eventually led to the birth of *quality circles*.

Quality circles

The quality circles movement began in Japan in the year 1962. A quality circle would consist of workers/employees from the same company/unit. Headed by a foreman or a manager they meet periodically to discuss various issues relating to quality.

The main objectives of the quality circles are,

- Chalking out measures that enhance the unit/organization's performance.
- Protecting human relations and creating a working environment that fosters creativity.
- Leveraging human capabilities to improve organizational and individual performance.

Juran had heard about this concept even before his visit to Japan in the 60's. However at that time he had failed to understand either its value or its principles. It was during his second visit that he could see the circle phenomenon operating in many Japanese companies.

Realizing the benefits of quality circles, Juran decided to make foreign countries aware of it. Juran started introducing the concept and its benefits during various national and international conferences. The concept was also promoted through various publications in paper, courses, seminars and lectures.

The Japanese perception of goods eventually changed. While earlier Japanese goods were looked down upon for their poor quality, now they were beginning to be recognized for their better quality. Their adherence to quality and its principles helped gain a better market share for their products.

In certain industries, Japan was actually giving companies in other parts of the world a run for their money. The impact of the quality revolution in Japan was also seen in different forms, some of which are explained below.

Rather than facing the Japanese business counterparts as rivals, few foreign competitors collaborated with the Japanese companies. This helped the Japanese get better access to

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foreign markets and trends. The collaboration also helped the Japanese adapt various best practices and systems that these foreign companies followed.

Similarly, foreign countries also became aware of the quality control movement in Japan. They began understanding the Japanese quality control revolution by attending the various seminars and lectures in Japan. They were so impressed with the results that they initiated certain activities that would help implement quality control principles in their industries.

Quality changed everything

The 60's is thus considered a golden decade for the Japanese quality control. It was during this period that Japan began experiencing the benefits of the quality movement.

Decade of troubles

During the 70's, Japan and most other developing nations faced several problems. Japan was facing a major crisis because of the limited supply of energy and other natural resources.

Juran realized that the situation in Japan was quite similar to what the British faced some two hundred years ago during the industrial revolution. At that time Britain and its surrounding islands were getting highly populated. The resources that were available were consumed rapidly. *This led to a crisis.*

These similarities apart there were also some differences the process of industrialization in Japan and that of Britain. Britain's colonial system helped it acquire many foreign markets and materials through conquest. However, this colonist system was absent during Japan's rise of industrialization. The Japanese explored and conducted trade in foreign countries by meeting all the rules regulations and other trade policies of the home country.

During that period, Japan also faced other issues related to growing nationalism. Generally, when nations begin developing they prefer not to have any foreign control or dominance. In Japan too, the rising nationalism made it further difficult for foreign suppliers to have easy access into the Japanese markets. They had to meet various trade policies and adhere to various rules to enter the Japanese market to conduct their business.

Quality challenges

Japan's predicament with regard to quality issues in the 70's was quite different. The 50's and the 60's saw Japan emphasizing more on the quality of the products so as to sell its products worldwide. However, the 70's brought in the challenge of sustaining quality and tackling related issues.

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Some of the challenges it faced include:

1. Managing and motivating people

The 70's brought in the need for Japanese companies to effectively manage the workforce to sustain quality at their workplace. Some of the issues to be considered were:

- a. Job satisfaction.
- b. Defining job responsibilities
- c. Developing systems to ensure quality
- d. Encouraging its employees to accept job rotation

2. Consumer communication

Until the 70's, Japanese companies focused on producing quality products and selling them. Now they had to address consumer issues related to:

- a. Providing sufficient information regarding product through labeling and packaging
- b. Guiding users in product usage
- c. Minimizing pollution and health related issues arising due to use of products

3. Safety and legal responsibility

The Japanese companies had to look into designing safety into products, encouraging safe work practices, setting standards for minimizing pollution, and tackling legal issues.

4. After-sales service

In the 70's Japanese had to focus on developing an effective after sales service network. They also had to ensure sufficient spare parts inventory and minimize the customer's cost of ownership of product. In short, the Japanese were tackling the next level of quality issues in the 70's.

Change of guard

In the 1950's there were many Japanese leaders who helped in setting Japan on the path of quality and industrialization. They helped in providing the direction and impetus that motivated Japan to create better quality output. Some of these famous leaders include the Kenichi Koyanagi and Ishikawa, both associated with JUSE.

Sustaining the quality principles

The quality control revolution helped the Japanese in achieving good quality results. The close of the 70's established the need for the Japanese to continue to value their quality journey. It needed a new generation of leaders and engineers who would take Japan to new levels of quality. These leaders need to foresee plausible problems lest they should lose out to their competitors.

To lay due emphasis on these new problems, the Japanese needed good leaders who could convince the people of the new issues resolved. They had to therefore initiate programs that would motivate the economy to fully utilize various resources. Thereby they would be able to achieve their new goals and resolve new problems.



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Younger generation

Juran happened to interact with the younger generation of Japanese quality leaders during his visit in the 70's. He was glad to observe that the younger generation was enthusiastic in improving the economy and its quality. Juran hoped that this enthusiasm and commitment of the younger leaders would lead Japan to becoming a developed nation.

The journey continues

Japan has come a long way from being a nation of copiers to a nation that epitomizes quality. Its journey to success though has not been easy. It was the commitment from consecutive generations of Japanese quality and business leaders that helped Japan transform so drastically. Today Japan is considered one of the leading industrial super powers in the world. Japan owes it all to the quality movement and other revolutions. This expedition of Japan, which led to its quality evolution, should serve as an important lesson for other developing nations.