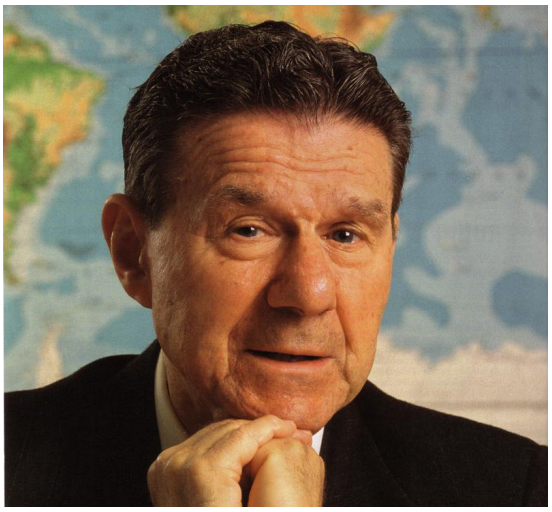
Armand V. Feigenbaum (1922 - 2014)



Armand Vallin Feigenbaum was an American quality control expert and businessman. Feigenbaum was born in New York, United States. Feigenbaum studied at the Union College where he received his Engineering degree. Then, he decided to go forward with his education and obtain a Ph.D. in Economics at the Massachusetts Institute of Technology. In 1944, he had the opportunity to be the manager of manufacturing operations and quality control of the company General Electric in Schenectady, New York position he would hold for ten years.

From 1937-1968, Dr. Feigenbaum grew from an entry-level pre-college job to be the hands-on manager of quality as the Company-wide Manager of Manufacturing Operations and Quality Control at the General Electric Company (1958-68) in New York City.

He developed the “Total Quality Control” concept while concurrently at GE. He introduced the concept first in an article in 1946. In 1951, while a doctoral student at MIT, Dr. Feigenbaum wrote the first edition of his book Total Quality Control. He established the principles of Total Quality Management (“TQM”), the approach to quality and profitability that has profoundly influenced management strategy and productivity in the competition for world markets in the United States, Europe, Asia, Latin America and the Middle East. He wrote, “Total quality control is an effective system for integrating the quality development, quality maintenance, and quality improvement efforts of the various groups in an organization so as to enable production and service at the most economical levels which allow full customer satisfaction.”

In 1968, he decided to found the company General Systems in Pittsfield, Massachusetts, where he was the president until his death. Feigenbaum promoted quality control in the United States. In addition, he was the creator of the concept of “Total Quality Control” whose name was subsequently modified by Total Quality Management. The importance of his contribution was the generation of a new way to

compete in the national and international market and which had an outstanding influence in his country and in Japan.

His work earned him a position as an Honorary Member of the International Quality Academy (IAQ). Feigenbaum defended the idea of supplying the satisfaction and expectation of the client in order to look for Quality. In addition, he approached Quality from several perspectives to be understood. The quality is dynamic; because the customers' wishes are. Feigenbaum's speech was questioned by some experts because they claimed it was not consistent. Others claimed that it was not feasible to translate customer expectations into product or service features.

The book of Feigenbaum: the "Total Quality Control" narrates the basic components and problems of a modern quality focused on the organization. The book received good comments for being well organized, comprehensive and concise. Furthermore, the book would become a fundamental text for business administration students. Feigenbaum's book highlights that quality is not only responsibility of the production department, but that the entire company and all employees must work towards that. This exercise was known as the "Stages of Quality".

Although, the entrepreneur does not discredit the importance of individual methods as part of a control program, in order to achieve Quality, Feigenbaum states that quality is not equal to the best, but to provide the best service and price for the client. This concept seems to be quite relative, depending on who the client is and what good service means to them. On the control concept, he warns that it is necessary to establish standards, always aiming to improve quality standards, through effective control methods.

Armand Feigenbaum establishes the control methods or approaches as follow: Control of new designs, control of reception of materials, control of the product, special studies of process, and quality costs. He warns that it is necessary to understand that the costs represent what a company needs to invest in order to provide the customer with a quality product. The costs, according to Feigenbaum are classified into costs of conformance and costs of non-conformance. The first concept arises from the efforts to keep defects from occurring at all. The second refers to training investments, review of new products, quality reports, and investments in improvement projects.

He has given several conferences in his country and most of them are on the steps towards quality, which he has structured in three steps: Quality leadership, management quality technology and organizational commitment. This proposal goes against the traditional approach towards faults or defects and also it emphasizes on

the necessity that managers seek a constant focus on the conservation of quality and a great mean to achieve that is to implement a program of the quality circle, said Feigenbaum.

Another step: Modern quality techniques, marked a break between the methods of traditional companies where only one department is relegated to quality control, which ends up being useless.

On the contrary, in a modern company, all the members of the organization must be responsible for the quality of their product or service. From the process office staff, engineers to plant operators must influence the quality, from their possibilities. The idea is to achieve a flawless performance. The last step refers to the commitment of the organization, to achieve this action in which motivation is a fundamental factor. The company must ensure to train its staff to generate in them the spirit of commitment, everyone should see quality as a strategic element of business planning. Because of this, Feigenbaum received several recognitions, such as Edwards Medal in recognition of “his origination and implementation of basic foundations for modern quality control” in 1965 and the National Medal of Technology and Innovation in 2007. He was also invited to be a member of the National Association of Security Industry Merit Award, member of the American Association for Advancement of Science, Life Member of the Institute of Electrical and Electronic Engineers, Life Member of the American Society of Mechanical Engineers and Life Member of the Plymouth Marine Biology Society.

Armand V. Feigenbaum is also known for his concept of the “hidden plant“. That is in every factory a certain proportion of its capacity is wasted through not getting it right the first time. Dr. Feigenbaum quoted a figure of up to 40% of the capacity of the plant being wasted. At that time, this was an unbelievable figure; even today some managers are still to learn that this is a figure not too far removed from the truth.

The elements of total quality to enable a totally customer focus (internal and external)

- Quality is the customers perception of what quality is, not what a company thinks it is
- Quality and cost are the same not different
- Quality is an individual and team commitment
- Quality and innovation are interrelated and mutually beneficial.
- Managing Quality is managing the business
- Quality is a principal

- Quality is not a temporary or quick fix but a continuous process of improvement
- Productivity gained by cost effective demonstrably beneficial Quality investment
- Implement Quality by encompassing suppliers and customers in the system

The several editions of Total Quality Control have been published in more than twenty languages including French, German, Japanese, Chinese, Spanish and Russian, and are widely used throughout the world as a foundation for management practice.

Dr. Feigenbaum's establishment of General Systems with his brother Donald, made it possible for him to further refine TQM and widely bring to many companies and organizations the benefits of the total quality and management practices he had developed. This has brought demonstrable economic, environmental and social business benefits to these companies and their customers, and correspondingly to America's economy. Equally important, far more than General Systems Company clients have benefitted from his intellect, creativity and experience.

He co-authored The Power of Management Capital with his brother and business partner, Donald S. Feigenbaum, a former GE engineer and manager, setting a new direction for innovation in management in the twenty first century not only in industry but also in health care, education, public administration and technology. The book has been translated into Japanese, Chinese, Brazilian Portuguese, Arabic, in several other languages and an edition in India.