

QUALITY GURUS



CUSTOMER & COMPETITIVE INTELLIGENCE FOR

PRODUCT, PROCESS, SYSTEMS & ENTERPRISE EXCELLENCE



Deming

W. Edwards Deming



Crosby

Philip Crosby



Juran

Joseph Juran



Shewhart

Walter Shewhart



Feigenbaum

Armand V. Feigenbaum



Ishikawa

Kaoru Ishikawa



Taguchi

Genichi Taguchi



Shingo

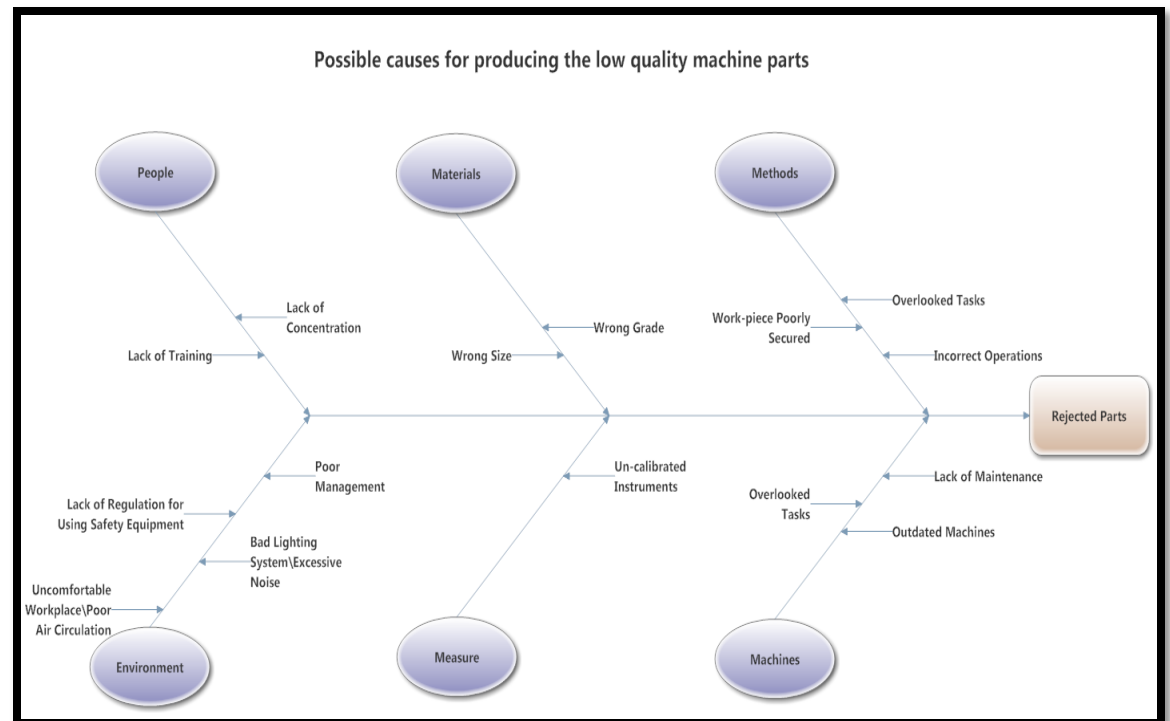
Shigeo Shingo

DR. KAORU ISHIKAWA`S BIOGRAPHY

- ✓ Born: July 13, 1915
- ✓ Died: April 16, 1989
- ✓ 1939- Graduated from the Department of Applied Chemistry, University of Tokyo
- ✓ Employed in coal liquefaction and obtained experience in design, construction, operations, research.
- ✓ 1939 - 1941 - Naval Technical Officer In charge of 600 workers to construct a factory. - this experience he says was invaluable to QC activities later on.
- ✓ 1941-1947 Ishikawa worked at the Nissan Liquid Fuel Company
- ✓ 1947 - Researcher, University of Tokyo, began studying statistical methods
- ✓ 1949- jointed JUSE QC research group and became an instructor.

CONTRIBUTIONS TO QUALITY

- User Friendly Quality Control
- Fishbone Cause and Effect Diagram - Ishikawa diagram
- Implementation of Quality Circles
- Emphasized the Internal customer
- Shared Vision



ACHIEVEMENT

- 1952- Director of the Chemical Society of Japan
- 1969- Member of ISO, Japan
- 1970- Commenced conducting quality control training seminars.
- Consultant to Ford Motor Company, Bridgestone Co. Ltd, Komatsu Manufacturing, Ltd., IBM Japan,
- American Society for Quality Control and thousands of other companies.
- 1977 -Chairman of ISO, Japan
- 1981- Executive Member of ISO
- 1981- Published What is Total Quality Control? The Japanese Way, first edition.



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BACKGROUND OF JOSEPH M. JURAN

- December, 1904- Joseph M. Juran was born in Romania, Barisilia
- 5 years old-his father left Romania and came to the United States for a better life for his family
- After they came to U.S, they still remained in poverty
- By using his intelligence and dedication Juran changed himself from a poor Romanian immigrant into a world renowned quality control expert.



EDUCATIONS



***(1920)-SOUTH HIGH
SCHOOL...***



***(1920-1924)- UNIVERSITY
OF MINNESOTA...***



***(1931-1935)-LOYOLA
UNIVERSITY CHICAGO
SCHOOL OF LAW...***

ACHIEVEMENT

1937 - the Chief of Industrial Engineering at Western Electric's home office in New York.

1945 - he took the position of Chairman of the Department of Administrative Engineering at New York University at 40 years old.

1928 - he wrote a pamphlet entitled "Statistical Methods Applied to Manufacturing Problems". This pamphlet has since become the basis for the well-known Statistical Quality Control Handbook, which is still published today.

Nearly thirty years after Juran visited Japan, Emperor Hirohito recognized Juran's contribution to the development of Japan's quality control and the facilitation of a U.S. and Japanese friendship. Juran was awarded the highest award that can be given to a non-Japanese person, the Order of the Sacred Treasure.

CONTRIBUTIONS

- 1937-he developed “Pareto principle,” many managers use the principle to help separate the “vital few” from the “useful many” in their activities. The application makes it one of the most useful concepts.
- Dr. Juran wrote the first standard reference work on quality management, the Quality Control Handbook. This handbook is the reference for most quality and performance improvement change agents since it provides important how-to information specifically for improving an organization’s performance by improving the quality of its goods and services.
- In 1964 - His classic book, Managerial Breakthrough, first published presented a more general theory of quality management. It was the first book to explain a step-by-step sequence for brilliant improvement. This process has grown to Lean and Six Sigma.

CONTRIBUTIONS (cont.)

- 1986- The Juran Trilogy was established. The trilogy was accepted worldwide as the basis for quality management. His trilogy defined three management processes required by all organizations to improve. Quality control, quality improvement, and quality planning
- Dr . Juran was the first figure combines the human aspects of quality management , referred to as Total Quality Management in which man is the most important aspect for determining quality standards .





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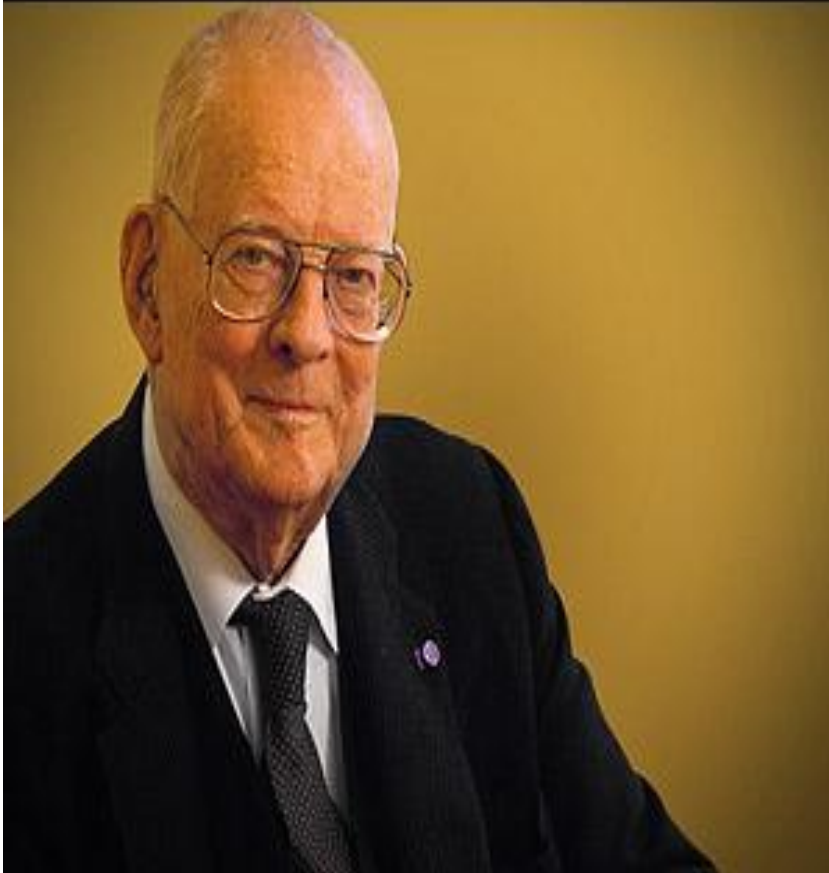


Shingo

Shigeo Shingo

Provide For Theory For Management To Improve Quality, Productivity And Competitive Position

WILLIAM EDWARDS DEMING



Born :

- October 14, 1900 , at Sioux City, Iowa

Died :

- December 20, 1993 (aged 93) at Washington

Married :

- In 1922 and 1932

You should not
ask questions
without
knowledge.

W. Edwards Deming

“Quality is everyone’s responsibility and we never have to stop getting better”

W. E. Deming - Jimena Ca

BACKGROUND

- Deming received a BSc in electrical engineering from the University of Wyoming at Laramie (1921), an MS from the University of Colorado (1925), and a PhD from Yale University (1928). Both graduate degrees were in mathematics and physics.
- W. Edwards Deming was a statistician and business consultant whose methods help hasten Japan's recovery after WWII and beyond.
- He is best known for promoting his management method called 14 Points which is based and derived on a system of thought called the System of Profound Knowledge

CONTRIBUTION

- 7 deadly disease
- Deming Cycle (PDCA)
- System of profound knowledge
- 14 point
 1. Create a constant purpose toward improvement
 2. Adopt the new philosophy
 3. Stop depending on inspections
 4. Use a single supplier for any one item
 5. Improve constantly and forever
 6. Use training on the job
 7. Implement leadership
 8. Eliminate fear
 9. Break down barriers between department
 10. Get rid of unclear slogan
 11. Eliminate management by objectives
 12. Remove barriers to pride of workmanship
 13. Implement education and self-improvement
 14. Make “transformation” everyone’s job

ACHIEVEMENT

- Doctorate in mathematical physics from Yale University in 1928
- Degrees LL.D. and Sc.D. honoris causa
- Madeleine of Jesus Award from Rivier College
- Shewhart Medal from the American Society for Quality Control in 1956 and the Samuel S
- The Emperor of Japan award in 1960
- Wilks Award from the American Statistical Association in 1983
- National Medal of Technology to Dr. Deming in 1987 from President Reagan
- Distinguished Career in Science award from the National Academy of Sciences in 1988
- The author of several books and about 200 papers. His books, "Out of the Crisis" (MIT/CAES, 1986) and "The New Economics" (MIT/CAES, 1994)



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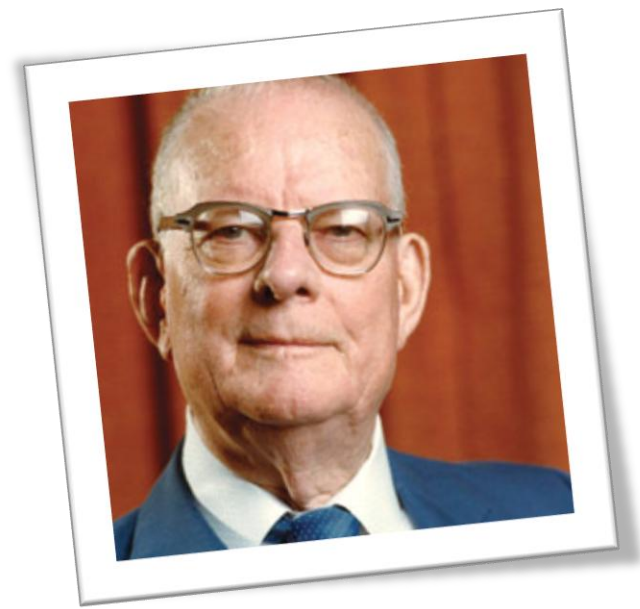
Taguchi

Genichi Taguchi

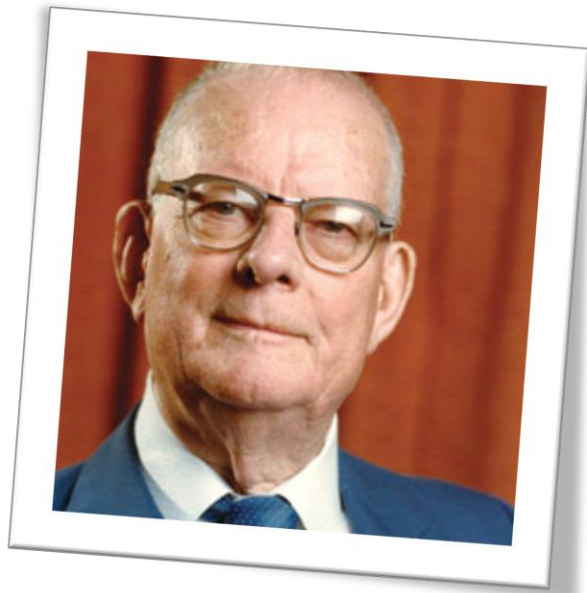


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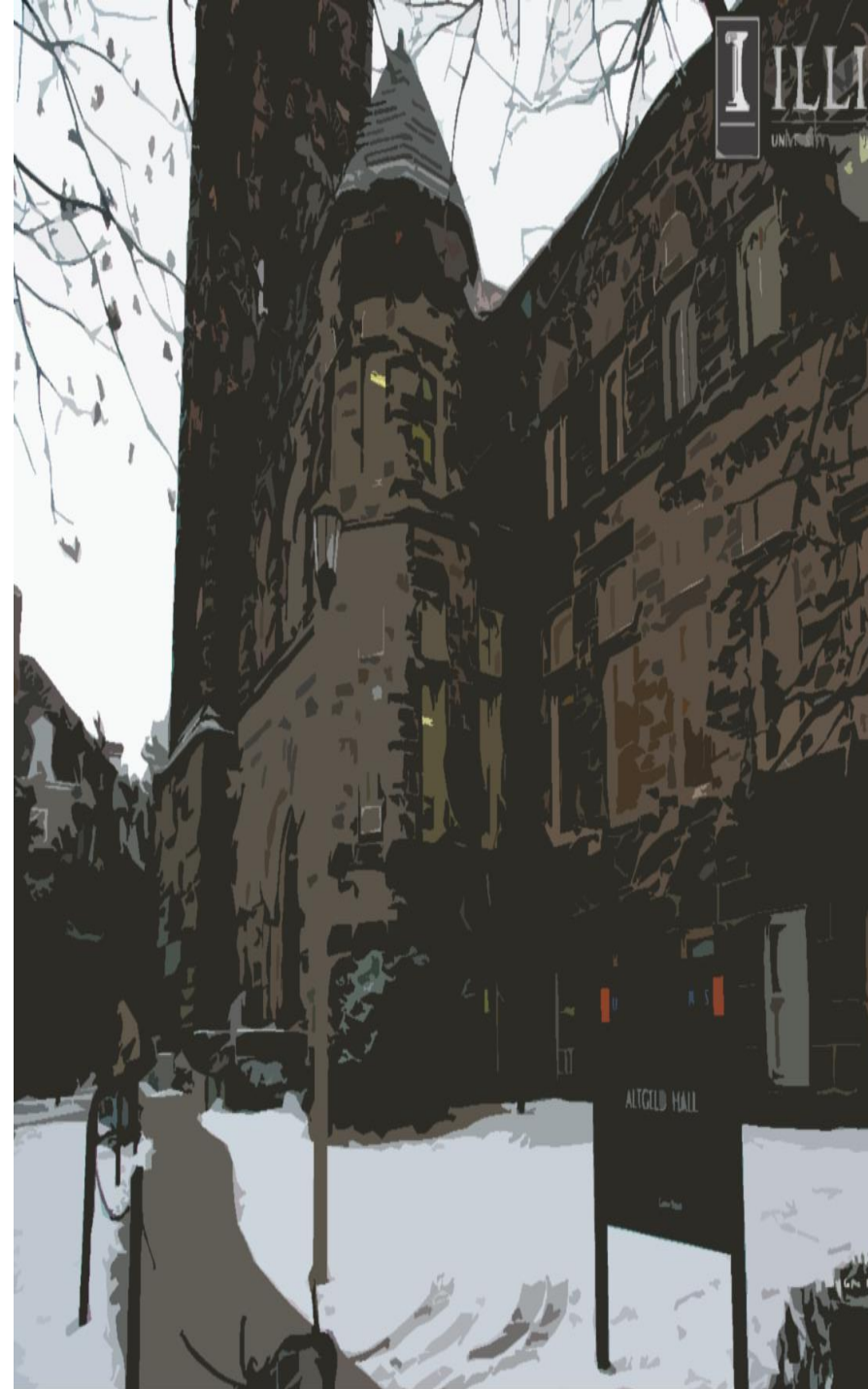
Shigeo Shingo



- Walter Andrew Shewhart
- American physicist, engineer and statistician
- Father of statistical quality control and also related to the Shewhart cycle.
- Born in New Canton, Illinois to Anton and Esta Barney Shewhart



- Study at University of Illinois being awarded his doctorate in physics from the University of California, Berkeley in 1917
- Married Edna Elizabeth Hart, daughter of William Nathaniel and Isabelle "Ibie" Lippencott Hart on August 4, 1914 in Pike County, Illinois.

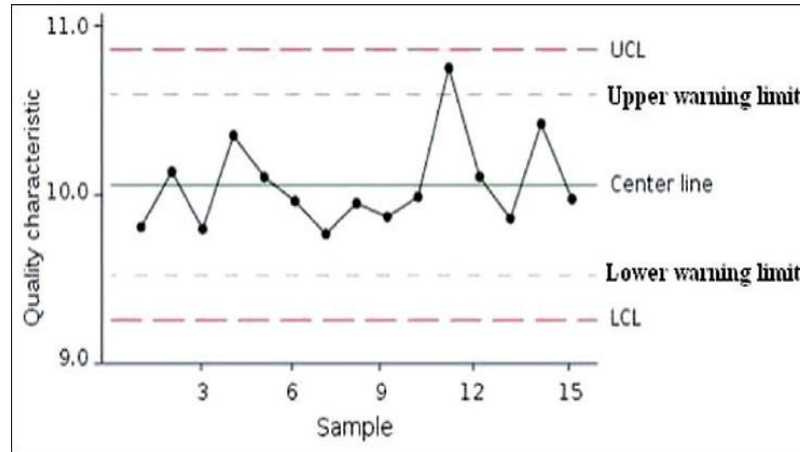


Shewhart joined the Western Electric Company to assist their engineers in improving the quality of telephone hardware.

Shewhart identified two categories of variation which he called “assignable-cause” and “chance-cause” variation.



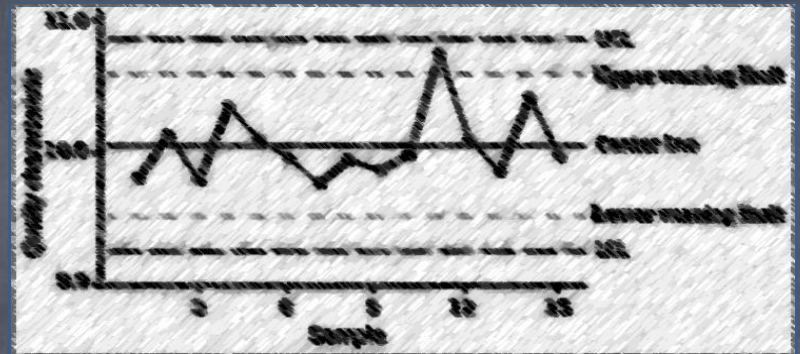
Statistical Process Control



PDSA CYCLE



What is Statistical Process Control (SPC)?



- Quality data in the form of Product or Process measurements are obtained in real-time during manufacturing. This data is then plotted on a graph with pre-determined control limits.

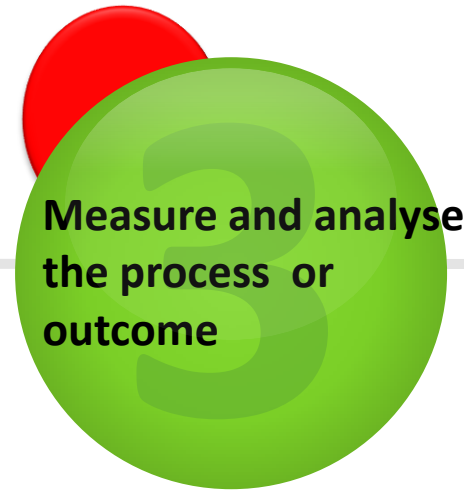
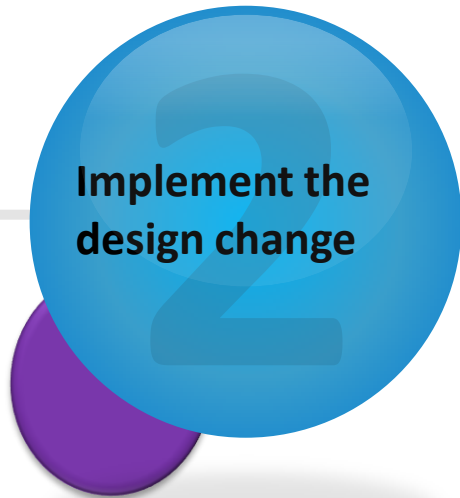
- An industry-standard methodology for measuring and controlling quality during the manufacturing process

- **Control limits** are determined by the capability of the process, whereas **specification limits** are determined by the client's needs.



PDSA CYCLE





Achievement



**WALTER A.
SHEWHART**

- Founding member, fellow and president of the Institute of Mathematical Statistics
- Founding member, first honorary member and first Shewhart Medallists of the American Society for Quality
- Fellow and President of the American Statistical Association
- Fellow of the International Statistical Institute
- Honorary fellow of the Royal Statistical Society
- Holley medal of the American Society of Mechanical Engineers
- Honorary Doctor of Science, Indian Statistical Institute, Calcutta





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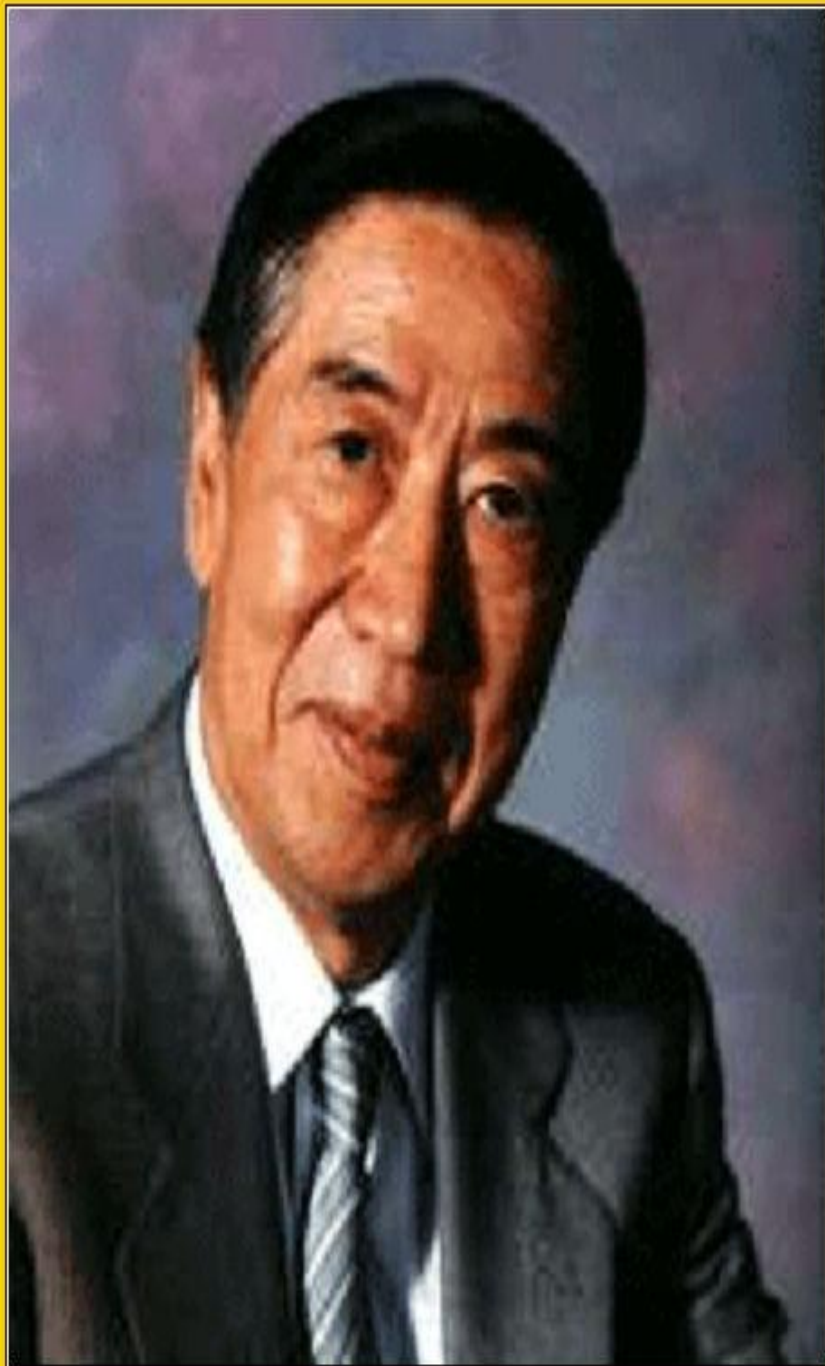
Taguchi

Genichi Taguchi



Shingo

Shigeo Shingo



GENICHI TAGUCHI

Born on January 1, 1924
Tokamachi, Japan.

Initially studied textile engineering at Kiryu
Technical College

In 1942, he was drafted into the Astronomical
Department of the Navigation Institute of
the Imperial Japanese Navy.

In 1950, he joined the Electrical
Communications Laboratory (ECL) of
the Nippon Telegraph and
Telephone Corporation.

Since 1982, Genichi Taguchi has been an
advisor to the Japanese Standards
Institute and executive director of the
American Supplier Institute, an international
consulting organization.

BACKGROUND

"Quality is measured as the total loss to society caused a product"

Genichi Taguchi



- Taguchi defines Quality as “the loss imparted by the product to society from the time the product is shipped”
- Taguchi spent his twelve years there in developing methods for enhancing quality and reliability.
- Father of “Taguchi method” and “Robust Engineering”.
- He also applied his quality improvement knowledge at Morinaga Pharmaceutical and even worked for a candy maker, Morinaga Sieka, to reduce the melting properties of caramel at room temperature
- Conventional industrial engineering considers quality costs as the cost of rework or scrap of items manufactured outside specification.
- Taguchi considered such private costs to the manufacturers as short-term costs, and introduced a new approach of understanding costs to society owing to non-conformance with specifications.
- Taguchi focuses mostly on off-line cost quality control. Means improving quality and reducing total cost in design stage.

CONTRIBUTIONS

- Taguchi has made a very influential contribution to industrial statistics. Key elements of his quality philosophy include the following:
- Taguchi loss function, used to measure financial loss to society resulting from poor quality;
- The philosophy of off-line quality control, designing products and processes so that they are insensitive ("robust") to parameters outside the design engineer's control; and
- Innovations in the statistical design of experiments, notably the use of an outer array for factors that are uncontrollable in real life, but are systematically varied in the experiment.

ACHIEVEMENTS

- 1986 - Willard F. Rockwell Medal of the International Technology Institute
- 1989 - Indigo Ribbon from the Emperor of Japan
- 1990 - Honoured as a Quality Guru by the British Department of Trade and Industry
- 1995 - Honorary member of the Japanese Society of Quality Control
- 1997 - Automotive Hall of Fame Inductee
- 1998 - Honorary member of the American Society for Quality[4]
- 1998 - Honorary member of the American Society of Mechanical Engineers
- 1999 - Honorary president of the Robust Quality Engineering Society (Japan)