

Quality Gurus & their contribution

- Walter Shewhart
- Edward Demings
- Philip Crosby
- Joseph Juran
- Armand Feigenbaum
- Kaoru Ishikawa
- Genichi Taguchi
- Shigeo Shingo
- James Harrington



Quality Gurus & their contribution

Quality Guru.	Main Contribution
Walter A. Shewhart	<ul style="list-style-type: none"> – Contributed to understanding of process variability. – Developed concept of statistical control charts.
W. Edwards Deming	<ul style="list-style-type: none"> – Stressed management's responsibility for quality. – Developed "14 Points" to guide companies in quality improvement.
Joseph M. Juran	<ul style="list-style-type: none"> – Defined quality as "fitness for use." – Developed concept of cost of quality.
Armand V. Feigenbaum	<ul style="list-style-type: none"> – Introduced concept of total quality control. – Coined phrase "quality is free."
Philip B. Crosby	<ul style="list-style-type: none"> – Introduced concept of zero defects.
Kaoru Ishikawa	<ul style="list-style-type: none"> – Developed cause-and-effect diagrams. – Identified concept of "internal customer."
Genichi Taguchi	<ul style="list-style-type: none"> – Focused on product design quality. – Developed Taguchi loss function.

Walter Shewhart (1891-1967)



- Western Electric & Bell Telephone Engineer
- Father of Statistical Quality Control (SQC)
- Founder of the Control Chart (e.g. X-bar R chart)
- Originator of PDCA cycle
- ASQC (American Society for Quality) 1st Honorary Member 1947

Contribution of Walter Shewhart

- Grandfather of quality control
- Used statistics to explain process variability
- Deming made PDSA cycle for his work
- Developed statistical quality charts

Contribution of Edward Deming

- Greatest influence on quality control
- Father of Quality Control
- Implemented statistical quality control in Japan post WW2
- Reduce uncertainty & variability
- If Japan can: why can't we was broadcast for him
- Associated with Japanese union of scientist & engineers (JUSE)
- Stressed management responsibility
- Contributed to TQM
- PDCA/PDSA quality cycles
- Deming prize in quality in Japan

William Edwards Deming (1900-1993)



- Studied under Shewhart at Bell Laboratories (Awarded a Ph. d in Mathematical Physics in 1928)
- Western Electric Statistician
- Advisor, Author, Teacher & Consultant
- ASQC Honorary member in 1970
- Invited to Japan; Led the Japanese Quality Movement
- Deming introduced the statistical quality-control element to Japanese industry in the 1950s.
- Founder, Third Wave of Industrial Revolution
- Bureau of Census Advisor in Population Sampling
- Popularized Shewhart PDCA cycle



- 14 Points of TQM
- 7 deadly sins of management
- System of Profound knowledge

Kaoru Ishikawa (1915 – 1989) (Father of Quality Circle)

Professor Dr. Kaoru Ishikawa, (1915 – 89) is known as the “**Father of Quality circle**” for his role in launching Japan’s quality movement in the 1960s. He also developed Ishikawa Cause and Effect Diagram or Fish Bone Diagram. In TQM, Ishikawa advocated the following principles:

- **Quality is a company wide issue** and all must be pervasive influence on the way every issue of business is conducted.
- **Seven simplified tools of quality control** to be used by all the people in an organization
- **Remove the root cause, not the symptoms.**
- **Quality Circle** – small groups of similar employees that meet regularly to plan and carry out process changes to improve quality, productivity and the work environment .



Contribution of Kaoru Ishikawa

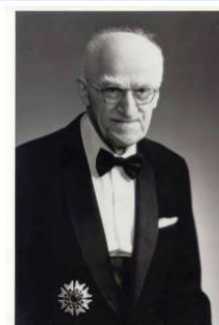
- Cause effect diagram (fishbone diagram)
- Wrote book “Guide to Quality Control”
- Wrote book “What Is Total Quality Control”
- Father of the Quality Circle Movement
- Quality Circle
- Problem solving methodology
- Concept of “Internal customer”

Contribution of Joseph Juran

- Quality defined as “Fitness for use”
- Quality Trilogy
- Quality Planning Roadmap
- “Little Q” & “Big Q” concept of quality
- Developed concept of “cost of quality”
- Stresses management methods

Dr. Joseph M. Juran (1904-2008)

- Joseph Moses Juran was a Romanian-born American engineer and management consultant. He is principally remembered as an evangelist for quality and quality management having written several influential books on those subjects.
- Juran believed quality is associated with customer satisfaction and dissatisfaction with the product, and emphasised the necessity for ongoing quality improvement through a succession of small improvement projects carried out throughout the organisation



Shigeo Shingo

- Born:- 1909
- Died:- 1990
- Shigeo Shingo, born in Saga City, Japan.
- He was a Japanese industrial engineer who distinguished himself as one of the world's leading experts on manufacturing practices and The Toyota Production System.
- Shingo is known far more in the West than in Japan.



Contribution of Shigeo Shingo

- Consultant for Toyota
- Achieved Toyota production system
- **Poka Yoke** system (avoiding errors) & Single minute exchange dies
- Shingo prize awarded for excellence in manufacturing
- Concept of source inspection
- Mistake proofing, stop mistakes repeating
- Reduce changeover time
- Just in Time system with Taiichi Ohno

Contribution of Philip Crosby

- Wrote book "Quality is Free"
- Absolutes of Quality Management,
- Zero Defects, Do it right the first time
- Quality Management Maturity Grid,
- 14 Quality Improvement Steps,
- Cost of Quality, Cost of Nonconformance
- Wrote "Quality Without Tears"
- "Quality is conformance to requirements; non-quality is nonconformance."
- 4 Absolutes of quality management

Philip B. Crosby



- Born in West Virginia in 1926
- An influential author, consultant and philosopher
- A graduate of Western Reserve University; completed a degree at Ohio College Of Podiatric Medicine.
- Wrote the best-seller Quality Is Free in 1979
- Philip Crosby Associates Incorporated
- published his book **Quality is Free** in 1979.

Armand Vallin Feigenbaum

- Born:- April 6, 1922
- Died:- November 13, 2014
- He was an American quality control expert and businessman.
- Feigenbaum concept's of Total Quality Control, known today as total quality management, combines management methods and economic theory with organizational principles.



Contribution of Anmand Feigenbaum

- Total Quality Control
- He used statistical techniques
- Was founding chairman of the International Academy for Quality
- Quality as a "Total Field" customer
- Customer defined quality

Contribution of Genichi Taguchi

- Father of Scientific Management
- [Indian Statistical Institute](#) visiting professor
- “Design of experiment” methods, orthogonal array
- Robust design in the area of product development, offline quality control
- The noise factors (environmental variation during the product's usage, manufacturing variation)
- Flexible system designs and concurrent engineering, Tolerance design
- Loss function, loss due to poor quality

Who is Dr. Genichi Taguchi?

- ◆ Born in 1924 in the town of Tokamachi, Japan
- ◆ Studied Textile Engineering and earned his doctorate from Kyushu University (Japan) in 1962
- ◆ Developed much of his thinking in isolation from the school of Ronald Fisher (Factorial DOE), only coming into direct contact in 1954.
- ◆ Pioneered his method with Dr. Yui Wu in 1966 while consulting with Bell Labs



Frederick Winslow Taylor

- "The Father of Scientific Management"
- Born in 1856 in Germantown, Pennsylvania
- Obsessed with order and control
- Piece rate system Increased productivity among factory workers
- Philosophy known as Taylorism
- Died 1915



Contribution of Frederick Taylor

- Father of scientific management
- Principle of scientific management
- Divide entire work in small elements
- Select, train & teach workers scientifically
- Division of labour
- Piece rate incentive system
- Time & motion study
- Improvement in industrial efficiency

Contribution of James Harrington

- Process Improvement
- Worked with IBM
- Served as president and chairman of the American Society for Quality
- Quality profit connection
- High performance Benchmarking



Q 1 Which of the following Quality Guru is credited with concept of “quality control charts”

- a) Edward Deming
- b) Ishikawa
- c) Shewhart
- d) Taylor

Ans c) Shewhart used quality control charts to analyse the data for quality control purposes.

Q 2 Which of the following Quality Guru is credited with concept of “quality circles”

- a) Edward Deming
- b) Ishikawa
- c) Shewhart
- d) Taylor

Ans b) Ishikawa is known as father of quality circle movement

Q 3 Which of the following Quality Guru is credited with concept of “quality cycle”

- a) Edward Deming
- b) Ishikawa
- c) Shewhart
- d) Taylor

Ans a) Edward Deming popularized the concept of PDCA & PDSA quality cycle

Q 4 Which of the following Quality Guru is credited with concept of “Total quality control”

- a) Edward Deming
- b) Ishikawa
- c) Shewhart
- d) Feigenbaum

Ans d) Feigenbaum popularized concept of Total quality control

Q 5 Which of the following scholar is associated with principle of scientific management?

- a) Edward Deming
- b) Ishikawa
- c) Shewhart
- d) Taylor

Ans d) Taylor preached principle of scientific management to bring efficiency in the system

Q 6 Poka Yoke is Japanese word which simple means

- a) Concurrent Engineering
- b) Zero defect
- c) Maximum quality
- d) Avoiding error

Ans d) Poka Yoke means avoiding error & this concept was provided by Shigeo Shingo

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