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## **The History of Quality and Continuous Improvement**

### **Key Learning Points**

1. Recognize different improvement methods and certification systems spanning the history of quality improvement.
2. Identify the “Quality Gurus” past and present.
3. Explain the importance of Dr. Juran in the evolution of continuous improvement.

### **Continuous Improvement Is Continuously Improving**

- 1300s: Guilds-The quality movement can trace its roots back to medieval Europe, where craftsmen began organizing into unions called guilds in the late 13th Century.
- 1800s: Industrial Revolution-Until the early 19th century, manufacturing in the industrialized world tended to follow this craftsmanship model. The factory system, with its emphasis on product inspection, started in Great Britain in the mid-1750s and grew into the Industrial Revolution in the early 1800s.
- Pre-1950s: Quality Control-After the United States entered World War II, quality became a critical component of the war effort: Bullets manufactured in one state, for example, had to work consistently in rifles made in another. The armed forces initially inspected virtually every unit of product; then to simplify and speed up this process without compromising safety, the military began to use sampling techniques for inspection, aided by the publication of military-specification standards and

training courses in Walter Shewhart's statistical process control techniques.

- 1960s: Quality Improvement-The birth of total quality in the United States came as a direct response to the quality revolution in Japan following World War II. The Japanese welcomed the input of Americans Joseph M. Juran and W. Edwards Deming and rather than concentrating on inspection, focused on improving all organizational processes through the people who used them.
- 1980s: Just-In-Time Lean-As Japanese companies were gaining on Western companies, many US manufacturers were embarking on their own improvement called Just In Time. This is called Lean today. Lean is a focused improvement effort to improve efficiency and quality.
- 1990s: Total Quality Management-By the 1990s, U.S. industrial sectors such as automobiles and electronics had been broad-sided by Japan's high-quality competition. The U.S. response, emphasizing not only statistics but approaches that embraced the entire organization, became known as total quality management (TQM).
- 1990s: Six Sigma-By the last decade of the 20th century, a company called Motorola wanted a better way to define quality to better compete with the Japanese companies. By the early 1990's Motorola's version of Quality Improvement was called Six Sigma Quality Process. Building on Juran's breakthrough improvement, Motorola used Six Sigma as a definition for quality, and DMAIC was formed. By 2010 many organizations were combining Lean and Six Sigma into one continuous improvement methodology.
- 2000s and Beyond: Performance Excellence-New continuous improvement systems have evolved from the foundations of Deming, Juran and the early Japanese practitioners. They have moved beyond manufacturing into service, healthcare, education and government sectors. Today's continuous improvement practices are used to help an organization achieve its business goals, not just its quality goals.

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## Evolution of Quality Management Certification Systems

- 1950s: MIL-Q-9858
- 1960s: NATO AQAP
- 1970s: BSI 5179 & BSI BS 5750
- 1980s: ISO 9000 Standard
- 1990s: Revision to ISO 9000 Standard
- 2000s: ISO 9001
- 2010s: ISO 9001:2015

## How Does Improvement Happen?

- “All Improvement happens project by project and in no other way.”
- “A project is a business problem scheduled for a solution.”

## The First Gurus and Researchers on Quality

### Crosby

- Absolutes of Quality

### Deming

- 14 Points
- Profound Knowledge

### Feigenbaum

- Total Quality Control
- Cost of Poor Quality

### Ishikawa

- Fishbone Diagram
- Cause & Effect

### Juran

- Juran Trilogy
- Pareto Principle

### Shewhart

- Statistical Control Charts
- Plan, Do, Check, Act

### Shingo

- Manufacturing Excellence

### Taguchi

- Taguchi Quality Loss Function

## Dr. Joseph M. Juran

Best known for:

- Managerial Breakthrough
- Universals of Quality Management

Notes:

- Juran Trilogy
- Pareto Principle
- The Quality Handbook (and many other publications)
- Recognized Globally as the man who created Toyota Quality

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## The Guru's Legacy

Today there are national and international quality awards named after these pioneers in quality such as:

- The Shingo Prize
- The Deming Prize
- The Malcolm Badridge National Quality Award

## New People Driving Quality Today

**Noriaki Kano** (pronounced [kano: noriaki]) is an educator, lecturer, writer and consultant in the field of quality management. He is the developer of a customer satisfaction model (now known as the Kano model) whose simple ranking scheme distinguishes between essential and differentiating attributes related to concepts of customer quality.

**Dr. Joseph A. DeFeo**, Chairman and CEO of Juran, is recognized as one of the world's leading experts on transformational change and breakthrough quality management.