

The Value of Six Sigma

Quality Pioneers



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Session Overview

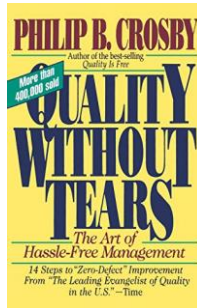
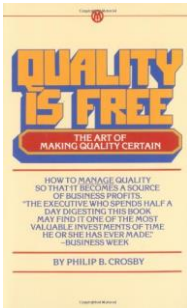
- Introduce Key Quality Pioneers and their contributions to the Quality profession:
 - Phillip Crosby
 - W. Edwards Deming
 - Armond Feigenbaum
 - Kaoru Ishikawa
 - Joseph Juran
 - Walter Shewhart



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Phillip Crosby

- Phillip Crosby was a businessman and author of 14 books
 - Best known for the creation of his “14 Steps to Quality Improvement”



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Phillip Crosby's 14 steps

1. Make it clear that management is committed to quality
2. Form quality improvement teams with representatives from each department
3. Determine how to measure where quality problems lie
4. Evaluate the cost of quality
5. Raise the awareness of quality among all employees
6. Take formal actions to correct problems
7. Establish “Zero defects” committee

“Quality is the result of a carefully constructed cultural environment. It has to be the fabric of the organization, not part of the fabric.”

Phill Crosby

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Phillip Crosby's 14 steps



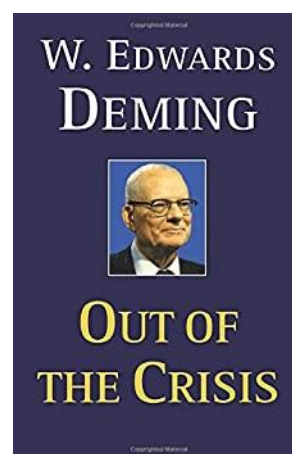
8. Train all employees to carry out their part of the quality improvement program
9. Hold a "Zero defects day"
10. Encourage groups to establish improvement goals
11. Communicate obstacles hindering the achievement of their goals
12. Recognize participation
13. Establish quality councils
14. Do it all over again – quality improvement never ends



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W. Edwards Deming

- W. Edwards Deming was an American engineer, author, professor and consultant
 - Created a list of "Fourteen points" in his book, Out of the Crisis
 - Helped reconstruct Japan post WWII
 - Transformation of American Auto Industry through basic quality principles



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Deming's Fourteen Points

1. Create constancy of purpose for improvement
2. Adopt a new philosophy
3. Cease dependence on inspection
4. End the process of awarding business on price alone. Work to minimize cost by working with a single supplier
5. Improve constantly and forever every process for planning, production, and service
6. Institute on the job training
7. Adopt and institute leadership



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Deming's Fourteen Points

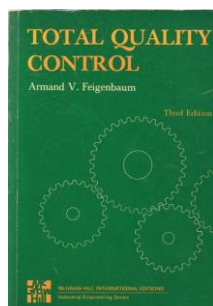
8. Drive out fear
9. Break down barriers between staff areas
10. Eliminate slogans, exhortations, and targets for the workforce
11. Eliminate numerical quotes
12. Remove barriers to pride of workmanship. Eliminate annual rating system.
13. Institute a vigorous program of education and self-improvement
14. Put everyone to work to accomplish the transformation



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Armond Feigenbaum

- Armond Feigenbaum was an American quality control expert who devised the concept of Total Quality Control which evolved to Total Quality Management.



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Feigenbaum's Contributions to Quality

- The concept of the “hidden plant” – the idea that so much extra work is done correcting mistakes
- The Total Quality Control system that integrates quality development, quality maintenance, and quality improvement within an entire organization
- Accountability for quality – quality must be actively managed and have visibility to the highest levels of an organization
- Created the concept of “cost of quality”

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Kaoru Ishikawa

- Kaoru Ishikawa was a Japanese organizational theorist and professor of engineering
 - Creator of Quality Circles
 - Highly focused on internal customers
 - Development of the Fishbone diagram (cause-and-effect diagram, Ishikawa diagram)



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Ishikawa's Philosophy

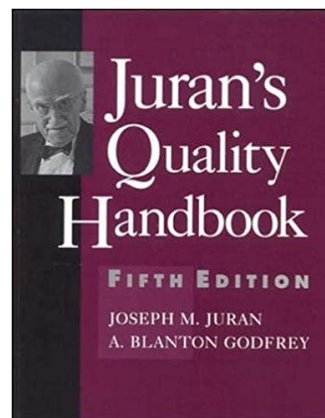
1. Quality first, not short-term profit
2. Consumer orientation, think from the perspective of the other party
3. The next process is your customer
4. Using facts and data to make presentations
5. Respect for humanity as a management philosophy, full management participation
6. Cross-functional management



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Joseph Juran

- Joseph Juran was an American engineer, author and management consultant
 - Developed the Juran Trilogy: Quality Planning, Quality Control, and Quality Improvement
 - Founded the Juran Institute in 1979
 - Popularized the Pareto Principle: “the vital few vs. the trivial many”
 - Described Six Sigma as a “breakthrough system” for quality improvement



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Juran's Approach to Quality Improvement

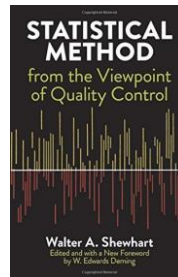
1. Create awareness of the need and opportunity for improvement
2. Make quality improvement part of every job description
3. Create the infrastructure: Establish a quality council, select improvement projects, appoint teams, provide facilitators
4. Provide training on how to improve quality
5. Regular progress reviews
6. Recognize the winning teams
7. Revise the reward system to enforce improvement
8. Maintain momentum by including quality improvement goals in the business plan



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Walter Shewhart

- Walter Shewhart was an American physicist, engineer and statistician
 - Known as the father of statistical process control
 - Creator of the Shewhart Cycle – PDCA (later updated by Deming to the PDSA Cycle)



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Quality Pioneers

- Many of the techniques in the Six Sigma toolbox have been around for many years, thanks to the work of many Quality Improvement professionals
- The underpinnings of Six Sigma has roots in the work of these Quality gurus, across numerous disciplines:
 - Management theory
 - Statistics
 - Engineering
 - Quality
 - Leadership

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Session Recap

- Introduced Key Quality Pioneers and their contributions to the Quality profession:
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