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Philip Crosby and Zero Defects

A Defect means non-conformance to quality standards and not necessarily a failure.

Quality has for long been highly prioritized. Given that smooth running of business demands high product/service quality to the end customer, this scenario is understandable. Scientists and researchers have been trying hard to achieve high quality at affordable prices. Thanks to their efforts the industrial community has designed many methodologies for achieving high quality. Some of these include Six-sigma, statistical process control, kaizen, poka yoke and so on.

Another such methodology is Zero Defects first conceptualized by Philip B. Crosby.

What are Zero Defects?

In order to fully understand Zero Defects it is essential to first define a defect.

A **defect** refers to any unwarranted deviation of physical entity or a process from the norms of a defined Quality standard. Common examples of defects are equipment breakdown, damage to machinery, low product quality, etc.

Defects can be sporadic (occurring at different places) or regular. They are caused by a single fault or combination of several random faults. However, most faults arise due to human inefficiency.

What is Quality?

Quality according to Philip Crosby is “conformance to specifications”. He preached that poor quality is non-conformance to quality standards.

Crosby believed that faults nourish defects, thereby causing poor quality. Hence, he insisted on the need to eliminate/reduce the occurrence or cause of a defect. He said, “It is not that people never make mistakes, but that the company does not start out expecting them to make mistakes.”

Crosby and his views

Philip Crosby was well known for his idea of “zero defects” and “do it right the first time”. According to him mistakes and faults are unavoidable. However, an effort to avoid mistakes/faults must exist. Always aim at reducing or eliminating the cause of a failure.

The thought according to Philip Crosby is “It is ‘better’ to build-to-specification than to build-to-intent”.

Philip Crosby

Philip Crosby was born in West Virginia, USA in 1926. He graduated from the Western Reserve University and served as a naval soldier in the Korean War. Here he served as a line inspector and in-charge of many quality control jobs. Later on, he was promoted as the Quality Manager for the Pershing Missile program.



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This experience helped him join International Telephone And Telegraph Corporation (ITT). Here, he was the vice president and Director for Quality for fourteen years. During his stint with ITT he was in charge of quality worldwide.

Later in 1979, inspired by his own experience with quality he wrote a book – *Quality is Free*.

Quality is Free

In this book Crosby argues, “Quality is free. It is not a gift, but it is free”. Quality does not cost money. Instead the actions that foster “unquality” cost money. Unquality – according to Crosby are all actions that are “not done right the first time”. Crosby preaches that quality generates profits.

He goes on to say that, “Every penny you don't spend on doing things wrong, over or instead, becomes half a penny right on the bottom line”.

Quality is Free was Crosby’s attempt to spread the idea of make quality certain. According to him managers in any unit can take measures to enhance quality. This book discusses various quality related topics such as what is quality, management understanding and attitude, quality organizational status, handling problems, cost of quality, quality improvement, management style, and quality tools.

The book became a huge success. The response tempted him to start his own company – Philip Crosby Associates Incorporated.

Crosby also taught at the Quality College in Florida where he gave lectures on quality related topics. Five years later, in 1984 he published his second book on quality – *Quality Without Tears*.

He wrote many other best sellers like *The Art of Getting Your Own Sweet Way*, *Running Things*, *The Eternally Successful Organization*, and *Leading: The Art of Becoming An Executive*.

Traditional quality control – boon or bane?

Philip Crosby proposed the idea of do it right the first time and Zero Defects. According to him conventional quality control methodologies are not the actual proponents of high quality.

According to him companies must set quality standards and follow them strictly. These quality standards must be relevant to customers’ needs. Most companies allow deviation from the requirement. Thereby, they end up spending 20 % of their revenues in redoing activities that go wrong, thanks to the deviation allowed. This according to Crosby accounts for 35 % expenses in a service company.

In short, organizations spend huge amounts in “redoing”, even before a product hits the market.

Do not blame the workers!

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Often poor product quality is addressed as “the workers fault”. Crosby ridicules this idea of blaming workers for substandard quality. According to him the management must set the plan for achieving specific quality standards. Once these standards are set, workers must adhere to these standards and work towards high quality.

The next concluding article will detail requirement planning for zero defects, the four point absolutes of quality management and the fourteen Steps to Quality Improvement.

Zero defects and requirement management

Crosby defines quality as “conformance to standards”. These standards vary or depend on organizational goals or requirements. Thus before devising quality standards, it is critical to conduct a “What is my requirement” initiative.

- Find out what is the actual requirement (what do you want?)
- Know how important they are to your customer
- Find out what aspects control the requirement
- Determine how and when they change
- Identify the effects of the change

Standards are set based on these requirements. Quality can then follow these standards. This helps initiate the cycle of continuous improvement to achieve zero defects.

Critics on Crosby’s views

Many renowned quality gurus have ridiculed Crosby’s idea of zero defects. They believe that zero defects and continuous improvement are contradictory. According to his critics, “If one can attain zero defects, then where is the scope for continuous improvement?”

The answer!

Zero defects, meaning high quality, may have been achieved at a specific cost, specific time cycle and specific manpower. Continuous improvement aims at improving the process to achieve zero defects at lower cost, lesser cycle time with lesser manpower. Thereby, there exists continuous improvement even at zero defects.

This proves that zero defects and continuous improvement are not contradictory. They are complementary.

Crosby’s on quality management

Crosby’s idea of quality enhancement is based on top-down approach. He believes that the top management is responsible for all quality enhancement initiatives. Once clear quality objectives are set, next comes training of employees. He stresses that the employees must follow a preventive management approach across all areas that concern quality. In order to achieve this objective, each process must be viewed as a step towards the desired goal.

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To simplify this concept, Crosby preached the need for process models. This, according to him, can be achieved by understanding the market and customer needs. He also views all quality improvement initiatives as continual improvement programs.

He defines four key absolutes as the base for a quality improvement initiative.

Four absolutes of quality management:

1. *“Quality is defined as conformance to requirements, not as 'goodness' nor 'elegance’”*

His most popular definition of quality is: “Quality is defined as conformance to requirements”. He says that poor quality is not an “outcome of a failure”. Instead, poor quality is what deviates from set standards.

2. *“The system for causing quality is prevention, not appraisal”*

According to Crosby defects or non-conformance cannot be completely eliminated. He believed that one cannot stop operators from making mistakes. Nevertheless, organizations must not expect their employees to make mistakes. Thus he stressed on the need for an approach to constantly reduce defects. According to Crosby, the catch line to improve quality is “prevention of non-conformance, not appraisal.”

3. *“The performance standard must be zero defects, not “that's close enough”.*

Crosby emphasized that organizations aim at zero defects. This approach would help organizations improve quality substantially. Further, he also discourages organizations from being complacent after reaching high quality standards. Quality is a continuous improvement process and must be aimed at pushing the envelope of quality even further.

4. *“The measurement of quality is the Price of Non-conformance, not indices”.*

Crosby avers that the metric to quality is not the number of defects. Rather, the price of non-conformance is the best way to measure quality.

Fourteen Steps

Crosby also proposed ‘*Fourteen steps to quality improvement*’. They detail the process of quality improvement initiative in an organization.

1. Make it clear that management is committed to quality.
2. Form quality improvement teams with senior representatives from each department.
3. Measure processes to determine where current and potential quality problems lie.
4. Evaluate the cost of quality and explain its use as a management tool.
5. Raise the quality awareness and personal concern of all employees.
6. Take actions to correct problems identified through previous steps.
7. Establish progress monitoring for the improvement process.
8. Train supervisors to actively carry out their part of the quality improvement program.



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9. Hold a Zero Defects Day to let everyone realize that there has been a change and to reaffirm management commitment.
10. Encourage individuals to establish improvement goals for themselves and their groups.
11. Encourage employees to communicate to management the obstacles they face in attaining their improvement goals.
12. Recognize and appreciate those who participate.
13. Establish quality councils to communicate on a regular basis.
14. Do it all over again to emphasize that the quality improvement program never ends.

Conclusion

In his books, Crosby also proposed the following five attributes critical to becoming an eternally successful organization:

1. Routinely do things right the first time.
2. Anticipate and use change to advantage.
3. View growth as consistent and profitable.
4. New products and services appear when needed.
5. Everyone is happy to work there.