

## Chapter 02: Foundations of Quality Management

1. Deming laid out a “quality improvement program” for companies such as Ford, GM, and Procter & Gamble, when invited to work with them to improve their quality.

- a. True
- b. False

ANSWER: False

2. Unlike other management gurus and consultants, Deming defined and described quality precisely.

- a. True
- b. False

ANSWER: False

3. Deming stressed that the highest levels of operational staff in an organization must assume the overriding responsibility for quality management.

- a. True
- b. False

ANSWER: True

4. Improvements in operations are achieved by reducing the causes and impacts of variation.

- a. True
- b. False

ANSWER: True

5. Deming emphasized that knowledge is not possible without theory, and experience alone does not establish a theory.

- a. True
- b. False

ANSWER: True

6. Unlike Deming, Juran proposed a major cultural change in the organization and did not seek to improve quality by working within the system familiar to managers.

- a. True
- b. False

ANSWER: False

7. Juran advocated the use of quality cost accounting and analysis to focus attention on quality problems.

- a. True
- b. False

ANSWER: True

8. Juran and Deming agreed on the policy that "Fear can bring out the best in people."

- a. True
- b. False

ANSWER: False

9. According to Crosby, quality is judged solely on whether requirements have been met, and nonconformance is the absence of quality.

## Chapter 02: Foundations of Quality Management

- a. True
- b. False

ANSWER: True

10. Crosby's philosophy demonstrates that quality management practices will cost, not save money.

- a. True
- b. False

ANSWER: False

11. Dr. Kaoru Ishikawa, a quality philosopher, is best known for coining the phrase "total quality control."

- a. True
- b. False

ANSWER: False

12. A. V. Feigenbaum, a quality philosopher, promoted the use of quality costs as a measurement and evaluation tool.

- a. True
- b. False

ANSWER: True

13. Dr. Kaoru Ishikawa, a quality philosopher, advocated collecting and analyzing factual data using simple visual tools, statistical techniques, and teamwork as the foundations for implementing total quality.

- a. True
- b. False

ANSWER: True

14. According to Dr. Ishikawa's philosophy, data with dispersion information are false data.

- a. True
- b. False

ANSWER: False

15. According to Dr. Ishikawa's philosophy, the ideal state of quality control occurs when inspection becomes necessary.

- a. True
- b. False

ANSWER: False

16. The total quality philosophy was initially based on only one principle—customer focus.

- a. True
- b. False

ANSWER: False

17. One of the most important quality management techniques is basic statistics.

- a. True
- b. False

ANSWER: True

## Chapter 02: Foundations of Quality Management

18. Setting simple goals is one of the practices that is used for implementing leadership as a quality management principle.

- a. True
- b. False

ANSWER: False

19. Variation in a production process decreases capacity utilization.

- a. True
- b. False

ANSWER: True

20. Variation in a production process makes it easier to find the root cause of the process issues.

- a. True
- b. False

ANSWER: False

21. Common causes of variation in a production process are a result of the design of the product and production system.

- a. True
- b. False

ANSWER: True

22. Special causes of variation in a production process arise from internal sources that are inherent in the process.

- a. True
- b. False

ANSWER: False

23. A quality management system represents a specific implementation of quality concepts, standards, methods, and tools, and is unique to an organization.

- a. True
- b. False

ANSWER: True

24. The core of a QMS is focused on creating the goods and services that customers want.

- a. True
- b. False

ANSWER: True

25. The ISO 9000:1994 series standards were intended to provide confidence to customers and other stakeholders that quality requirements are being achieved in the delivered product.

- a. True
- b. False

ANSWER: True

26. The ISO 9000 requirement for audits forces an organization to review its quality system on a routine basis.

- a. True

## Chapter 02: Foundations of Quality Management

b. False

ANSWER: True

27. With the implementation of an ISO 9001-certified QMS, Kenya Pharma found that process improvement efforts were effectively siloed.

a. True

b. False

ANSWER: False

28. The Union of Japanese Scientists and Engineers established the Deming Application Prize in 1951 to recognize companies that show a high level of achievement in

a. variation of production processes.

b. human resource policies.

c. developing innovative products.

d. quality practices.

ANSWER: d

29. According to Deming, a product or service possesses quality if

a. the production process engages more workforce.

b. the cost of the product or service exceeds its benefit.

c. it enjoys a sustainable market.

d. it shows variations in its production process.

ANSWER: c

30. In Deming's view, \_\_\_\_\_ is the chief culprit of poor quality.

a. concurrent engineering

b. variation

c. agility of the production process

d. low level of tolerance in manufacturing

ANSWER: b

31. The \_\_\_\_\_ theory states that improvements in quality lead to lower costs because they result in less rework, fewer mistakes, fewer delays and snags, and better use of time and materials. Lower costs, in turn, lead to productivity improvements.

a. Quincunx

b. Basic Elements of Improvement

c. Absolutes of Quality Management

d. Deming Chain Reaction

ANSWER: d

32. According to point one of Deming's 14 points for quality improvement, the responsibility of improving a firm's competitive position lies with \_\_\_\_\_.

a. top management

b. suppliers

c. middle management

## Chapter 02: Foundations of Quality Management

d. employees

ANSWER: a

33. A company and the people in the company need to continually renew themselves to take in new approaches and relearn many older ones. This is called \_\_\_\_\_.

- a. organizational designing
- b. organizational learning
- c. organizational structuring
- d. organizational engineering

ANSWER: b

34. Deming synthesized the underlying foundations of the 14 Points of improving quality into four simple elements which are called

- a. basic elements of improvement.
- b. absolutes of quality management.
- c. the four steps to total quality control.
- d. a system of profound knowledge.

ANSWER: d

35. Which of the following is one of the four elements of Deming's system of profound knowledge?

- a. Quality leadership
- b. Suboptimization
- c. Understanding variation
- d. Modern quality technology

ANSWER: c

36. A \_\_\_\_\_ is a set of functions or activities within an organization that work together for the aim of the organization.

- a. quincunx
- b. schema
- c. hidden factory
- d. system

ANSWER: d

37. Which of the following terms refers to a device that illustrates a natural process of variation?

- a. Hidden factory
- b. Six sigma
- c. Quincunx
- d. Balanced scorecard

ANSWER: c

38. According to Peter Scholtes, a noted consultant, when people don't understand systems

- a. they try to resist the process of change.
- b. they are less likely to distinguish between fact and opinion.
- c. they see the symptoms but not the deep causes of problems.

## Chapter 02: Foundations of Quality Management

- d. they don't see events as individual incidents but assume it to be the combined result of several independent forces.

ANSWER: c

39. According to Peter Scholtes, a noted consultant, when people don't understand variation
- a. they see trends where there are none.
  - b. they are more likely to distinguish between fact and opinion.
  - c. they know when expectations are realistic.
  - d. they don't see events as individual incidents.

ANSWER: a

40. Which of the following is the difference between Deming's and Juran's quality philosophy?
- a. Juran made top management commitment an absolute necessity.
  - b. Juran sought to improve quality by working within the system familiar to managers.
  - c. Juran demonstrated that quality management practices will save, not cost money.
  - d. Juran viewed quality as imperative in the future competitiveness in global markets.

ANSWER: b

41. In Juran's quality trilogy, the process of preparing to meet quality goals is called
- a. quality planning.
  - b. quality control.
  - c. quality improvement.
  - d. quality leadership.

ANSWER: a

42. In Juran's quality trilogy, the process of meeting quality goals during operations is called
- a. quality control.
  - b. quality planning.
  - c. quality leadership.
  - d. quality improvement.

ANSWER: a

43. In Juran's quality trilogy, the process of breaking through to unprecedented levels of performance is called
- a. quality improvement.
  - b. quality control.
  - c. quality planning.
  - d. quality leadership.

ANSWER: a

44. In accordance with Juran's breakthrough sequence, the path from problem to solution consists of two journeys: the journey from symptom to cause is called
- a. remedial journey.
  - b. diagnostic journey.
  - c. continuous improvement.

## Chapter 02: Foundations of Quality Management

d. breakthrough improvement.

ANSWER: b

45. According to \_\_\_\_\_, the only performance measurement is the cost of quality, which is the expense of nonconformance and the only performance standard is “Zero Defects (ZD).”

- a. Ishikawa
- b. Juran
- c. Deming
- d. Crosby

ANSWER: d

46. The essence of Crosby’s quality philosophy is embodied in what he calls the

- a. absolutes of quality management.
- b. the breakthrough sequence.
- c. quality trilogy.
- d. Deming chain reaction theory.

ANSWER: a

47. Which of the following points about Crosby’s absolutes of quality management is true?

- a. Doing jobs right the first time is expensive.
- b. Quality means conformance to elegance, not requirements.
- c. The only performance measurement is the cost of quality.
- d. The burden of responsibility for solving quality problems falls only on the quality department.

ANSWER: c

48. According to Crosby, \_\_\_\_\_ is a performance standard which involves concentrating on preventing defects rather than just finding and fixing them.

- a. zero defects
- b. continuous improvement
- c. Baldrige criteria
- d. breakthrough improvement

ANSWER: a

49. Which of the following was one of Crosby’s basic elements of improvement?

- a. Agility
- b. Variation
- c. Implementation
- d. Suboptimization

ANSWER: c

50. Which one of the following Crosby’s basic elements of improvement means that the top management must take quality improvement seriously?

- a. Determination
- b. Variation

## Chapter 02: Foundations of Quality Management

- c. Implementation
- d. Suboptimization

ANSWER: a

51. Feigenbaum defined the term \_\_\_\_\_ as an effective system for integrating the quality development, quality maintenance, and quality improvement efforts of the various groups in an organization so as to enable production and service at the most economical levels which allow full customer satisfaction.

- a. absolutes of quality management
- b. basic elements of improvement
- c. quality trilogy
- d. total quality control

ANSWER: d

52. Feigenbaum popularized the term \_\_\_\_\_, which described the portion of plant capacity wasted due to poor quality.

- a. exponential distribution
- b. hidden factory
- c. quincunx
- d. quality trilogy

ANSWER: b

53. Which of the following is one of the key elements of Dr. Ishikawa's quality philosophy?

- a. Data with dispersion information are false data.
- b. Personnel management is the entrance and exit of quality.
- c. Remove the symptoms, not the root cause.
- d. Quality begins with education and ends with education.

ANSWER: d

54. Who among the following influenced the development of a participative, bottom-up view of quality, which became the trademark of the Japanese approach to quality management?

- a. Joseph Juran
- b. A.V. Feigenbaum
- c. Kaoru Ishikawa
- d. Philip.B. Crosby

ANSWER: c

55. Dr. Ishikawa is best known for developing a popular quality improvement tool called \_\_\_\_\_.

- a. u-chart
- b. process capability index
- c. histogram
- d. cause-and-effect diagram

ANSWER: d

56. According to the characterization of total quality by James W. Dean, Jr. and David E. Bowen, \_\_\_\_\_ are considered the foundation of the quality philosophy.



## Chapter 02: Foundations of Quality Management

- a. practices
- b. techniques
- c. principles
- d. variations

ANSWER: c

57. Which of the following principles supports statistical thinking, a philosophy of learning and action?

- a. Variations make it easy to understand root causes in a production process issue.
- b. Understanding and increasing variation are keys to success.
- c. Variation exists in all processes.
- d. All work occurs in a system of independent processes.

ANSWER: c

58. \_\_\_\_\_ are a result of the design of the product and production system and generally account for about 80 to 95 percent of the observed variation in the output of a production process.

- a. Remedial causes of variation
- b. Common causes of variation
- c. Assignable causes of variation
- d. Special causes of variation

ANSWER: b

59. The purpose of Deming's \_\_\_\_\_ experiment is to show that people can and do affect the outcomes of many processes and create unwanted variation by "tampering" with the process, or indiscriminately trying to remove common causes of variation.

- a. red beads
- b. hidden factory
- c. quincunx
- d. funnel

ANSWER: d

60. With regard to quality management systems, a quality \_\_\_\_\_ serves as a permanent reference for implementing and maintaining the system.

- a. minute book
- b. manual
- c. policy
- d. trilogy

ANSWER: b

61. With regard to quality management systems, \_\_\_\_\_ is a formal document that demonstrates a commitment to achieving high quality and meeting customer expectations.

- a. quality policy
- b. quality memorandum
- c. quality trilogy
- d. quality minute book

## Chapter 02: Foundations of Quality Management

ANSWER: a

62. How does KARLEE provide a vertically integrated range of services that support customers from initial component design to a finished, assembled product?

- a. Advanced design engineering support
- b. No prototype production
- c. No manufacturing
- d. Lack of value-added assembly

ANSWER: a

63. Which of the following is NOT one of KARLEE's principles of total quality?

- a. Customer focus
- b. Unobstructed approach
- c. Leadership
- d. Engagement of people

ANSWER: b

64. KARLEE's steps of customer focus, leadership, engagement of people, process approach, improvement, evidence-based approach, and relationship management are collectively called the

- a. KARLEE code.
- b. gold standard.
- c. exemplification of principles of total quality in its business practice.
- d. standards of care.

ANSWER: c

65. At KARLEE, each customer is assigned a(n) \_\_\_\_\_ that is on call 24 hours a day for day-to-day production issues.

- a. technical representative
- b. agent
- c. three-person customer service team
- d. contact

ANSWER: c

66. At KARLEE, the strategic direction of the company is set by

- a. mid-level executives.
- b. the president.
- c. a committee.
- d. SELs (Senior Executive Leaders).

ANSWER: d

67. All of the following are results of Kenya Pharma's implementation of ISO 9001-certified QMS EXCEPT

- a. Kenya Pharma can push out information and updates faster to remote field service representatives (FSRs).
- b. The average time for sea shipments to clear customs decreased from 21.8 days to 5.7 days.
- c. The average time for air shipments to clear customs decreased from 2.5 days to 1.8 days.
- d. The percentage of health facilities passing supply chain data quality audits increased from 53 percent to 98

## Chapter 02: Foundations of Quality Management

percent.

ANSWER: d

68. Briefly describe KARLEE's position on leadership.

ANSWER: Senior Executive Leaders (SELs) and the KARLEE Leadership Committee (KLC) set the strategic direction of the company, and communicate and reinforce values and expectations through performance reviews, participation in improvement or strategic projects, regular interactions with customers and team members, and recognition of team member achievements.

69. Describe relationship management at KARLEE.

ANSWER: KARLEE selects and develops suppliers that share their commitment to customer satisfaction to ensure they have the materials and services needed to support their customers. Supplier performance issues and expectations are discussed with individual suppliers and presented at the annual Supplier Symposium.

70. List KARLEE's three values.

ANSWER: The three values adhered to in the KARLEE organization are:

- a. a systematic approach to business and performance management,
- b. a desire for long-term partnerships, and
- c. global leadership.

71. In what ways did Kenya Pharma's implementation of ISO 9001-certified QMS change the culture?

ANSWER: The process brought staff members together as a team and made them more invested in their work. The continual improvement process created a culture in which everyone had a voice, was learning, and had a role in innovating and improving.

72. In what way did the implementation of ISO 9001 make Kenya Pharma's internal operations more efficient?

ANSWER: The record control guidelines pushed the staff to reach the next level to institute records naming conventions and centrally store its records. This saved staff time in the long run by making these documents easier to find and making the staff's internal operations more efficient.

73. The first point in Deming's 14 points for improving quality is "Create a vision and demonstrate commitment." Explain this point.

ANSWER: Create a vision and demonstrate commitment is the first point in Deming's 14 points for improving quality. An organization must define its values, mission, and vision of the future to provide long-term direction for its management and employees. Deming believed that businesses should not exist simply for profit; they are social entities whose basic purpose is to serve their customers and employees. To fulfill this purpose, they must take a long-term view, invest in innovation, education, and training, and take responsibility for providing jobs and improving a firm's competitive position. This responsibility lies with top management. Effective leadership begins with commitment, but making a commitment to quality and performance excellence is still difficult for managers. Even when managers have conducted a thorough assessment of their organization and know what they need to change, many do not effectively follow up on opportunities. Reasons range from denial to excuses.

74. What is a quincunx?

ANSWER: A device called a quincunx illustrates a natural process of variation. In a quincunx, small balls are dropped from a hole in the top and hit a series of pins as they fall toward collection boxes. The pins cause each ball to move randomly to the left or the right as it strikes each pin on its way down.

75. List the steps taken by Japanese organizations as a result of Juran's leadership.

## Chapter 02: Foundations of Quality Management

*ANSWER:* The steps taken by Japanese organizations as a result of Juran's leadership are:

1. Directing quality from the senior management level
2. Training the entire management hierarchy in quality principles
3. Striving to improve quality at a revolutionary rate
4. Reporting progress on quality goals to executive levels
5. Involving the workforce in quality
6. Revising the reward and recognition structure to include quality

76. Describe the similarities in the quality improvement philosophies of Deming, Juran, and Crosby.

*ANSWER:* Despite their significant differences to implementing organizational change, the philosophies of Deming, Juran, and Crosby are more alike than different. Each views quality as imperative in the future competitiveness in global markets; makes top management commitment an absolute necessity; demonstrates that quality management practices will save, not cost money; places responsibility for quality on management, not the workers; stresses the need for continuous, never-ending improvement; acknowledges the importance of the customer and strong management/worker partnerships; and recognizes the need for and difficulties associated with changing the organizational culture.

77. Describe the three steps to quality which summarize Feigenbaum's quality philosophy.

*ANSWER:* Feigenbaum's philosophy is summarized in his three steps to quality:

1. **Quality Leadership:** A continuous management emphasis is grounded on sound planning rather than reaction to failures. Management must maintain a constant focus and lead the quality effort.
2. **Modern Quality Technology:** The traditional quality department cannot resolve 80 percent to 90 percent of quality problems. This task requires the integration of office staff as well as engineers and shop-floor workers in the process who continually evaluate and implement new techniques to satisfy customers in the future.
3. **Organizational Commitment:** Continuous training and motivation of the entire workforce as well as an integration of quality in business planning indicate the importance of quality and provide the means for including it in all aspects of the firm's activities.