

Chapter 01: Management of Technology and Innovation: An Overview

1. Alan Greenspan believes history will show that the later half of the 1990s was:
- a time of greed.
 - a time in which hedge funds should have been regulated.
 - a time when technology failed United States business.
 - a pivotal time when technology developed previously was finally allowed to be utilized effectively.
 - a pivotal time when international currency exchange was solidified.

ANSWER: d

2. RFID:
- allows firms to track goods from production through their being sold.
 - allows stores to have their own background music in the store.
 - allows the tracking of two of the most dangerous chemicals in an industrial setting.
 - provides communication between widely spread employees on an immediate basis.
 - tracks employees as they do their daily work if they work outside an office setting.

ANSWER: a

3. It was found in the state of Washington that labor income in technology-based industries was ____ percent more than the state's average.

- 5
- 14
- 27
- 63
- 87

ANSWER: e

4. It was found in the state of Washington that in technology-based industries each job in turn supports an average of ____ jobs while the state average is ____ jobs per employee in all other industries.

- 3.55; 1.01
- 3.55; 5.05
- 3.55; 2.86
- 0.25; 2.86
- 1.39; 2.86

ANSWER: c

5. Technology pushes society when:
- innovations make unwanted changes in society that are unfortunate such as pollution.
 - innovations push the government to make new regulations in order to control the activity.
 - new technology strains the social fabric of the society to the breaking point.
 - technology is not demanded by society, but once available it is quickly adopted by society.
 - technology is demanded by society and it leads to changes in the society.

ANSWER: d

6. Technology's impact:

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- a. is ongoing.
- b. occurs in small very distinct steps.
- c. occurs in large shifts over time.
- d. is not significant.
- e. is limited unless combined with money.

ANSWER:

a

7. Technology's impact is:

- a. only in particular business units.
- b. significant only for certain people in the organization.
- c. occurs only outside the business organization since it is so pervasive.
- d. organization-wide.
- e. effects societies, not businesses.

ANSWER:

d

8. A major source of innovation in the appliance industry is:

- a. Canada.
- b. Finland.
- c. the United States.
- d. Russia.
- e. Japan.

ANSWER:

e

9. Normative institutions are concerned with:

- a. the laws in a country.
- b. the norms of professions and industries.
- c. the progress of technology at a normal pace.
- d. the ability to obtain the insights of average consumers.
- e. the banking industry.

ANSWER:

b

10. It can be expected that the theory and methods of managing technology and innovation learned from the text are:

- a. applicable only in the United States.
- b. applicable only in the United States and Canada.
- c. applicable only in the United States, Canada, and the United Kingdom.
- d. applicable only in the United States, Canada, the United Kingdom, and parts of Europe.
- e. applicable around the world.

ANSWER:

e

11. The annual level of spending on new technology by business in the 1990s:

- a. increased by 10% per year.
- b. decreased by 10% per year.

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- c. increased by 4% per year.
- d. increased by 20% per year.
- e. increased by 5% per year.

ANSWER:

a

12. In the early part of this century, there was a decline in technology spending due to:

- a. tighter control over spending.
- b. less technology being employed.
- c. positive growth on spending.
- d. hiring more employees.
- e. the use of cell phones in the workplace.

ANSWER:

a

13. The goal of management of technology and innovation in an organization should always be to:

- a. create new technology that is groundbreaking.
- b. expand the number of employees in R&D.
- c. create value for the firm.
- d. be efficient.
- e. maximize this quarter's profits.

ANSWER:

c

14. There are several definitions of technology in the text; all the definitions have some common elements. Each definition implies:

- a. a systematic approach to the desired outcome.
- b. that change is an outcome.
- c. that change occurs rapidly.
- d. that changes in technology occur at random.
- e. both "a systematic approach to the desired outcome" and "change is an outcome."

ANSWER:

e

15. Technology can be broadly defined as:

- a. a process whereby new and improved products, processes, materials, and services are developed and transferred to a new plant or market where they are appropriate.
- b. all the knowledge, products, processes, tools, methods, and systems employed in the creation of goods or in providing services.
- c. a coordinated set of actions that fulfill the firm's objectives, purposes, and goals.
- d. the systematic gathering of information that leads to the generation of feasible alternatives for the firm.
- e. the elements of planning, implementation, and evaluation and control.

ANSWER:

b

16. Evaluation and control of technology is:

- a. the checking to be sure the technology works.
- b. ensuring the technology meets the specifications of the manual.

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- c. commonly ignored.
- d. the monitoring to ensure technology meets goals and desired outcomes.
- e. typically outsourced to ensure proper operation.

ANSWER:

d

17. The National Cash Register Company almost failed in 1960 because it:

- a. focused on developing the digital calculator.
- b. focused on expanding its lead in mechanical calculators.
- c. moved into credit card technology.
- d. moved its production to Brazil.
- e. spent excessively on R&D.

ANSWER:

b

18. Management of technology is defined as the linking of different disciplines to:

- a. plan, develop, implement, monitor, and control technological capabilities.
- b. make sure that the technology works.
- c. find the most efficient technology.
- d. find the most economical technology.
- e. control the use of technology.

ANSWER:

a

19. The task force on Management of Technology listed five specific reasons why individuals and organizations should be concerned about the management of technology. Which of these is NOT one of the five reasons provided?

- a. The rapid pace of technological change demands a cross discipline approach.
- b. The rapid pace of technology development and the increasing sophistication of consumers have shortened the product life cycle.
- c. The need for increasing production times.
- d. Increasing international competition.
- e. As technology changes, the tools of management must change.

ANSWER:

c

20. Who developed the idea and product called the iBOT Mobility System?

- a. Dean Wheelwright
- b. Dean Karoub
- c. Dean Kamen
- d. Dean Kenneth
- e. Dean Witter

ANSWER:

c

21. What "significant leap" for society did Dean Kamen accomplish with technology?

- a. JIT distribution
- b. A stand-up wheelchair
- c. A cell phone

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- d. A silicon chip
- e. None of these choices

ANSWER:

b

22. Which one of these is an example of process innovation?

- a. E-mail security
- b. Just-in-time inventory (JIT)
- c. Firewalls
- d. Virus protection software
- e. Both "just-in-time inventory (JIT)" and "firewalls"

ANSWER:

e

23. Innovation can be defined as:

- a. the process whereby new and improved products, processes, materials, and services are developed and transferred to a new plant or market where they are appropriate.
- b. all the knowledge, products, processes, tools, methods, and systems employed in the creation of goods or providing services.
- c. a coordinated set of actions that fulfill the firm's objectives, purposes, and goals.
- d. the systematic gathering of information that leads to the generation of feasible alternatives for the firm.
- e. the elements of planning, implementation, and evaluation and control.

ANSWER:

a

24. The commitment of top management to innovation requires the recognition of the following realities *except*:

- a. management of technology encompasses the management of innovation.
- b. it requires the fostering of an environment where innovative thought and work are encouraged.
- c. it involves the protection of the firm's current strategic position in order to maximize prior investment in technology.
- d. it involves leading a firm from existing processes and products to something that is better and more valuable.
- e. it is proactive and encourages creativity and risk taking.

ANSWER:

c

25. Delbecq's and Mills' characteristics of a firm that manages innovation well does NOT include which of the following?

- a. Sets of realistic expectations
- b. Separate funds for innovation
- c. Clear direction on studies to be done and follow-ups that are expected
- d. Periodic review of informal proposals by a group outside of line management
- e. Internal focus so boundary spanning does not distract from firm's focus

ANSWER:

e

26. The four individual characteristics that enhance innovation include all of the following *except*:

- a. asking questions.
- b. learning new skills.
- c. technological training.

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- d. taking risks and being proactive.
- e. aligning personal beliefs with organization goals.

ANSWER:

c

27. The effect of technology is typically seen as _____.

- a. flat
- b. negative
- c. cascading
- d. same
- e. limited

ANSWER:

c

28. All of the following are elements of strategic management *except*:

- a. return on investment.
- b. implementation.
- c. planning.
- d. evaluation.
- e. control.

ANSWER:

a

29. _____ are the methods of monitoring of technology to ensure that it meets the desired outcomes.

- a. Implementation and control
- b. Planning and implementation
- c. Evaluation and control
- d. Evaluation and monitoring
- e. Implementation and evaluation

ANSWER:

c

30. Firms that manage innovation will have which of the following characteristics?

- a. They provide clear direction.
- b. They provide a supportive atmosphere.
- c. They separate funds for innovation.
- d. They have realistic expectations.
- e. All of these choices.

ANSWER:

e

31. All of the following are characteristics that enhance the initiative that sparks innovation *except*:

- a. asking questions to identify problems and opportunities.
- b. learning new skills.
- c. taking risks.
- d. being proactive.
- e. managing innovation.

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ANSWER:

e

32. Technology is defined to include _____ employed in producing a good or service.

- a. knowledge
- b. products
- c. processes
- d. methods
- e. all of these choices

ANSWER:

e

33. To promote proactive approaches to the management of technology and innovation, managers should do all of the following *except*:

- a. designate clear technology leaders.
- b. assess objectively where their firm is on the technology curve.
- c. set realistic priorities.
- d. focus their search and assessment processes only on the largest units in the firm.
- e. understand what the tasks are and how they are connected.

ANSWER:

d

34. Managing innovation is a cross-discipline activity.

- a. True
- b. False

ANSWER:

True

35. Management of technology includes the evaluation/control phase for examining innovations after they become an ongoing part of the organization.

- a. True
- b. False

ANSWER:

True

36. The tools of management must change as technology changes, but the process of determining what those new tools should be is in its infancy.

- a. True
- b. False

ANSWER:

True

37. Innovation is only the invention of a new product or process.

- a. True
- b. False

ANSWER:

False

38. Innovation occurs when the firm is motivated with unrealistic expectations.

- a. True
- b. False

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ANSWER: False

39. The management of innovation requires firms to encourage risk-taking.

- a. True
- b. False

ANSWER: True

40. When fostering the correct environment for innovation, one thing a manager should do is separate funds for innovation.

- a. True
- b. False

ANSWER: True

41. Without the tools of management, the benefits of technology and innovation cannot be fully realized.

- a. True
- b. False

ANSWER: True

42. Linking of different disciplines to plan, develop, implement, monitor, and control technological capabilities to shape and accomplish the strategic objectives of an organization is the definition of technology.

- a. True
- b. False

ANSWER: False

43. The management of technology involves a much broader scope of continuation and nurturing of existing technology than does innovation.

- a. True
- b. False

ANSWER: True

44. Why should individuals and organizations be concerned about the management of technology?

ANSWER: Five reasons:

- rapid pace of technological change
- shortened product life cycles
- cut product development times; more flexibility
- increase in international competition
- tools of management change as technology changes

45. Discuss ways in which top management can foster creativity and innovation in the workplace.

ANSWER: The ways in which top management can foster creativity and innovation are listed below:

- separate funds for innovation
- periodic reviews of informal proposals by a group outside of line management
- clear direction on studies to be done and follow-ups that are expected
- extensive boundary-spanning activities to learn from others and to gain understanding of what others are doing
- sets of realistic expectations

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- supportive atmosphere for "debugging" and exploration of variations as well as appropriate resources for maintenance and service

46. How does innovation relate to technology? How do the two differ?

ANSWER:

- Innovation is directly reliant on new technology most of the time; the two often are inter-related and go hand in hand.
- Technology is the creation of a new way to do things; innovation is a new way to use this technology.

47. What are some of the pros and cons of the introduction of cell phones into the business environment, and how have managers minimized the cons?

ANSWER: The pros/advantages of the introduction of cellular phones are:

- workers now have immediate access to their home offices.
- orders for products can be submitted almost immediately saving time and money.
- allows efficiency and effectiveness to be improved.

The cons/disadvantages of the introduction of cellular phones are:

- workers do not have to come to the office as often.
- workers become less connected to the culture of the organization.
- makes control more critical and difficult to accomplish.

48. How can a firm enhance initiative that sparks innovation?

ANSWER: A firm can enhance initiative by:

- asking questions to identify problems and opportunities.
- learning new skills.
- taking risks and be proactive.
- aligning personal beliefs and values with organization's goals.