

## Chapter 02

### The New Products Process

#### True / False Questions

1. The new products process essentially turns a profit flow into an opportunity.

**FALSE**

Feedback: The new products process essentially turns an opportunity (the real start) into a profit flow (the real finish). It begins with something that is not a product (the opportunity) and ends up with another thing that is not a product (the profit). The product comes from a situation and turns into an end.

AACSB: Analytic  
Blooms: Understand  
Difficulty: 2 Medium  
Topic: The Phases in the New Products Process

2. In the project evaluation phase of the new products process, a full screen uses a scoring model of some type and results in a decision to either undertake development or quit.

**TRUE**

Feedback: During the project evaluation phase of the new products phase, the views of potential consumers in a concept test come together in what is often called the full screen. It uses a scoring model of some type and results in a decision to either undertake development or quit.

AACSB: Analytic  
Blooms: Understand  
Difficulty: 2 Medium  
Topic: The Phases in the New Products Process

3. The development and launch phase of the new products process comprise what is popularly called the "fuzzy front end".

**FALSE**

Feedback: The first three phases of the new products process (strategic planning, concept generation and, especially, concept or project evaluation) comprise what is popularly called the "fuzzy front end" (of the new product process). By the end of the project, most fuzz will have been removed.

AACSB: Analytic  
Blooms: Understand  
Difficulty: 2 Medium  
Topic: The Phases in the New Products Process

4. A batch concept is generated during the concept evaluation phase of the new products process.

**FALSE**

Feedback: The development phase of the new products process includes the generation of the prototype concept, the batch concept, the process concept, and the pilot concept.

AACSB: Analytic  
Blooms: Remember  
Difficulty: 1 Easy

Topic: The Phases in the New Products Process

5. A fully screened product passes the test of fit with a company's situation.

**TRUE**

Feedback: In the project or concept evaluation phase of the new products process, a fully screened concept is a new product idea that has passed the test of fit with a company's situation.

AACSB: Analytic  
Blooms: Remember  
Difficulty: 1 Easy

Topic: The Phases in the New Products Process

6. One of the benefits of accelerating time to market is that the product will be on the market for a longer period of time before becoming obsolete.

**TRUE**

Feedback: Accelerating time to market offers many benefits to the firm. The product will be on the market for a longer period of time before becoming obsolete, it can attract customers early and possibly block competitors with similar products that hit the market at a later time, or it can help to build or support a firm's reputation.

AACSB: Analytic  
Blooms: Understand  
Difficulty: 2 Medium

Topic: Speeding the Product to Market

7. Firms that strive for mindshare think not about the speed of an individual product's development and launch, but rather about creating a dominant position in the mind of the customer.

**TRUE**

Feedback: Firms that strive for mindshare think not about the speed of an individual product's development and launch, but rather about creating a dominant position in the mind of the customer. The firm with mindshare in a given product category is the one that the target market associates with the product category and that is seen as the standard for competitors to match (such as Intel microprocessors or Apple or Samsung smartphones).

AACSB: Analytic

*Blooms: Remember  
Difficulty: 1 Easy  
Topic: Speeding the Product to Market*

8. A recommended way to cope when facing a high-turbulence environment is to encourage inflexibility by freezing a product concept until the last possible moment.

**FALSE**

Feedback: A better way to cope when facing a high-turbulence environment is to keep product development as flexible as possible. The key lies in not freezing the product concept until the last possible moment, but allowing later phases in the new products process to run concurrently with concept development. This is the principle of postponement.

*AACSB: Analytic  
Blooms: Understand  
Difficulty: 2 Medium  
Topic: Speeding the Product to Market*

9. Using the cash-to-cash metric to complement speed-to-market helps a firm manage just the moment of launch, not the whole launch phase.

**FALSE**

Feedback: Using cash-to-cash metric, a firm will measure not just how quickly the product is launched, but also how long it takes to break even. Using metrics such as this help a firm manage the whole launch phase, not just the moment of launch.

*AACSB: Analytic  
Blooms: Understand  
Difficulty: 2 Medium  
Topic: Speeding the Product to Market*

10. As opposed to goods, services are mass produced.

**FALSE**

Feedback: Whereas goods are mass-produced, services are provided through interaction between service provider and customer, and the most successful service providers are those that can deliver a "customized" experience.

*AACSB: Analytic  
Blooms: Remember  
Difficulty: 1 Easy  
Topic: What about New Services?*

11. Firms that launch new-to-the-world products into the market incur a significantly lower long-term survival rate than those that enter the market later.

**TRUE**

Feedback: Research confirms that firms that launch new-to-the-world products incur a significantly lower long-term survival rate than those that enter the market later. But the lower survival rate for a new-to-the-world product is offset by higher profits, since the market for such a product is often larger and can offer bigger profit margins.

*AACSB: Analytic  
Blooms: Remember  
Difficulty: 1 Easy  
Topic: New-to-the World Products*

12. Discovery-driven planning requires that managers make assumptions about the future in order to build their forecasts and targets, recognizing that these assumptions may be quite wrong.

**TRUE**

Feedback: Radical innovation requires a planning approach that acknowledges the unknowns and uncertainties involved. This approach, called discovery-driven planning, requires that managers make assumptions about the future in order to build their forecasts and targets, recognizing that these assumptions may be quite wrong.

*AACSB: Analytic  
Blooms: Understand  
Difficulty: 2 Medium  
Topic: New-to-the World Products*

13. Discovery-driven planning is typically seen in less-uncertain markets, where past results cannot be used to build predictable forecasts of the future.

**FALSE**

Feedback: Discovery-driven planning is different from the approach more typically seen in less-uncertain markets, where past results can be used to build predictable forecasts of the future. A guiding principle in discovery-driven planning is the reverse income statement.

*AACSB: Analytic  
Blooms: Understand  
Difficulty: 2 Medium  
Topic: New-to-the World Products*

14. In order to move promising radical innovation projects forward, senior management at some firms establishes a self-directed management team charged with moving an R&D innovation project to business operating status.

**FALSE**

Feedback: In order to move promising radical innovation projects forward, senior management at some firms establishes a transition management team charged with moving an R&D innovation project to business operating status. The transition team receives appropriate funding as well as support and oversight from senior management.

AACSB: Analytic  
Blooms: Understand  
Difficulty: 2 Medium  
Topic: New-to-the World Products

15. Technology-driven innovation doesn't really solve a customer problem, and therefore there is no application that can be brought to market.

**TRUE**

Feedback: The problem many firms have with radical innovation is that technology-driven innovation may be very exciting from a technical viewpoint, but doesn't really solve a customer problem, and therefore there is no application that can be brought to market.

AACSB: Analytic  
Blooms: Understand  
Difficulty: 2 Medium  
Topic: The Role of the Serial Innovator

## Multiple Choice Questions

16. Which of the following phases of the new products process involves selecting a high potential opportunity and beginning customer involvement?

- A. Product launch
- B. Product development
- C. Concept evaluation
- D. Concept generation**

Feedback: Refer to figure 2.1. In the concept generation phase of the new products process, one must select a high potential/urgency opportunity, and begin customer involvement. In this phase, one can also collect available new product concepts that fit the opportunity and generate new ones as well.

AACSB: Analytic  
Blooms: Remember  
Difficulty: 1 Easy  
Topic: The Phases in the New Products Process

17. Designing and validating the production process for the best prototype takes place during the \_\_\_\_\_ phase of the new products process.

- A. launch
- B. concept generation
- C. project evaluation
- D. development**

Feedback: Refer to figure 2.1. The technical tasks in the development phase of the new products process involve specifying the full development process and its deliverables, designing prototypes, testing and validating prototypes against protocol, designing and validating the production process for the best prototype, and scaling up production as necessary for product and market testing.

*AACSB: Analytic*

*Blooms: Remember*

*Difficulty: 2 Medium*

*Topic: The Phases in the New Products Process*

18. In the context of the new products process, which of the following best defines a full screen?

- A. It refers to unsolicited ideas for concept generation that pour in through spam mails.
- B. It refers to a formal type of evaluation where all views are evaluated using a scoring model.**
- C. It refers to a set of ideation tools that can be used to generate new concepts.
- D. It refers to a comprehensive business analysis that is conducted before idea generation.

Feedback: Depending on the idea, a project will be evaluated either through end-user screening or technical screening. Some of the proposed new products may have originated among technical people; this would have to be followed by a concept test to see what potential consumers thought about it. Ultimately, these views all come together in what is often called the full screen. It uses a scoring model of some type and results in a decision to either undertake development or quit.

*AACSB: Analytic*

*Blooms: Understand*

*Difficulty: 2 Medium*

*Topic: The Phases in the New Products Process*

19. Brew & More, a popular beverage manufacturer, produces and sells a popular mint flavored drink called Mintz. A new competitor enters the market and offers a similar mint-based drink that's suited for consumers on diet. This company offers its products at a much lower price. Brew & More calls for a line extension to meet the encroachment of its new competitor in its annual marketing plan. Identify the stream of activity that feeds strategic planning for new products in this scenario.

- A. Special opportunity analysis
- B. Ongoing corporate planning
- C. Ongoing marketing planning**
- D. Distribution channel planning

Feedback: The stream of activity that feeds strategic planning for new products in this scenario is ongoing marketing planning. There are at least three main streams of activity that feed strategic planning for new products.

*AACSB: Reflective Thinking*

*Blooms: Apply*

*Difficulty: 3 Hard*

*Topic: The Phases in the New Products Process*

20. Acron Co.'s new products team is engaged in the new products process. The members of the team select a high potential opportunity and begin creating new product ideas by identifying problems businesses or people have and suggesting solutions to them. Which of the following phases of the new products process will the team enter next?

- A. The product development phase
- B. The product launch phase
- C. The concept generation phase
- D. The concept or project evaluation phase**

Feedback: Refer to figure 2.1. The new products team will enter the concept or project evaluation phase next. The concept or project evaluation phase of the new products process involves evaluating new products concepts on technical, marketing, and financial criteria.

*AACSB: Reflective Thinking*

*Blooms: Apply*

*Difficulty: 3 Hard*

*Topic: The Phases in the New Products Process*

21. Oilon Chemicals has discovered a new chemical compound. The compound has a high potential in industrial applications. Which of the following categories of the opportunity identification and selection phase of the new products process is illustrated in this scenario?

A. An underutilized resource  
**B. A new resource**  
C. An external mandate  
D. An internal mandate

Feedback: This is an illustration of a new resource category of opportunities. Opportunities identified in the opportunity identification and selection phase of new products process are sorted into four categories. The identification of a new resource is one such category.

*AACSB: Analytic*

*Blooms: Apply*

*Difficulty: 2 Hard*

*Topic: The Phases in the New Products Process*

22. Long-range planning for a project often establishes a five-year-out dollar sales target, and new products people often must fill part of the gap between current sales and that target. That assignment is called the \_\_\_\_\_, an example of an internal mandate.

**A. product innovation gap**  
B. product quality gap  
C. sales assessment gap  
D. performance gap

Feedback: Long-range planning for a project often establishes a five-year-out dollar sales target, and new products people often must fill part of the gap between current sales and that target. That assignment is called the product innovation (and/or acquisition) gap. Other common internal mandates are simply upper management desires, such as Steve Jobs's stated goal to "reinvent the phone" with the iPhone project.

*AACSB: Analytic*

*Blooms: Remember*

*Difficulty: 1 Easy*

*Topic: The Phases in the New Products Process*



23. George, the marketing manager of Axil Bicycles, discovers that the company's current market is becoming stagnant and the product life cycle is far past the dynamic growth stage. George also learns that Axil's competitor, Kinetixyles, is developing an innovative new bicycle with novel features. George thus proposes that Axil Bicycles should also come up with a new product, equipped with superior features. Which of the following types of opportunities is identified here?

- A. An underutilized resource
- B. A new resource
- C. An external mandate**
- D. An internal mandate

Feedback: In this scenario, an external mandate is identified by George given that the market for the bicycle is becoming increasingly stagnant, and the competition from Kinetixyles seems threatening. Identifying that customer needs maybe evolving also necessitates the development of a new product with substantial innovation.

*AACSB: Reflective Thinking*

*Blooms: Apply*

*Difficulty: 3 Hard*

*Topic: The Phases in the New Products Process*

24. The \_\_\_\_\_ comes into play once an opportunity is approved, and managers turn to various techniques to guide new product people in exploiting it.

- A. Concept Novelty Copyright (CNC)
- B. Product Development Mandate (PMC)
- C. Product Innovation Charter (PIC)**
- D. Concept Ideation Rule (CIR)

Feedback: Once an opportunity is approved, managers turn to various techniques to guide new product people in exploiting it. This is called the product innovation charter (PIC).

*AACSB: Analytic*

*Blooms: Remember*

*Difficulty: 1 Easy*

*Topic: The Phases in the New Products Process*

25. In the \_\_\_\_\_ phase of the new products process, opportunities are carefully and thoroughly described, then analyzed to confirm that a sales potential does, indeed, exist.

A. concept generation  
**B. opportunity identification and selection**  
C. concept or project evaluation  
D. development

Feedback: The process of creatively recognizing opportunities is called opportunity identification. The opportunities are carefully and thoroughly described, then analyzed to confirm that a sales potential does, indeed, exist.

AACSB: Analytic  
Blooms: Remember  
Difficulty: 1 Easy

Topic: The Phases in the New Products Process

26. In which of the following phases of the new products process is the first formal type of assessment done on new product concepts with regard to financial, technical, and marketing criteria?

**A. Concept or project evaluation phase**  
B. Product development phase  
C. Product launch phase  
D. Concept generation phase

Feedback: At the concept or project evaluation phase of the new products process, new products concepts are evaluated on technical, marketing, and financial criteria. They are ranked and it is here that requests for project proposals are made.

AACSB: Analytic  
Blooms: Remember  
Difficulty: 2 Medium

Topic: The Phases in the New Products Process

27. When evaluating a new product proposal, a(n) \_\_\_\_\_ is used to see what potential consumers think about the idea.

A. utility test  
B. feasibility analysis  
**C. concept test**  
D. construct validity analysis

Feedback: A concept test is used to see what potential consumers think about a product as product proposals are likely to have originated among the technical people.

AACSB: Analytic  
Blooms: Remember  
Difficulty: 1 Easy

Topic: The Phases in the New Products Process

28. In the new products process, after evaluating an idea, various views on the idea are combined together in what is often called the:

**A.** full screen.  
B. decision window.  
C. product protocol.  
D. product prototype.

Feedback: In the new products process, after evaluating an idea, various views on the idea are combined together in what is often called the full screen. It uses a scoring model of some type and results in a decision to either undertake development or quit.

AACSB: Analytic  
Blooms: Remember  
Difficulty: 1 Easy  
Topic: The Phases in the New Products Process

29. Project evaluation involves preparing a statement of what is wanted from the new product, and this statement is called the:

A. product concept.  
**B.** product protocol.  
C. product prototype.  
D. product innovation charter.

Feedback: Project evaluation involves preparing a statement of what is wanted from the new product. This is known as the product protocol. Protocol here means a kind of agreement, and it is important that there be agreement between the various groups before extensive technical work gets under way. The protocol should, to the extent possible, be benefits the new item is to yield, not the features the new item is to have.

AACSB: Analytic  
Blooms: Remember  
Difficulty: 1 Easy  
Topic: The Phases in the New Products Process

30. In which of the following phases of the new products process are prototypes typically created?

- A. The concept generation phase
- B. The concept or project evaluation phase
- C. The opportunity identification and selection phase
- D. The development phase**

Feedback: Prototypes are typically created in the development phase. The development phase is characterized by a product team that involves industrial design and bench work (goods) or systems design (services), prototypes, product specifications, and so on. It culminates in a product that the developers hope is finished: produced, tested, and costed out.

AACSB: Analytic  
Blooms: Remember  
Difficulty: 1 Easy

Topic: The Phases in the New Products Process

31. Identify the phase in the new product development process during which the item first acquires finite form.

- A. The concept generation phase
- B. The development phase**
- C. The launch phase
- D. The concept or project evaluation phase

Feedback: The development phase is the phase during which an item acquires finite form—a tangible good or a specific sequence of resources and activities that will perform an intangible service.

AACSB: Analytic  
Blooms: Remember  
Difficulty: 1 Easy

Topic: The Phases in the New Products Process

32. The development phase of the new product process involves the development of:

- A. new product suggestions.
- B. the marketing plan.**
- C. the product innovation charter.
- D. the product financing plan.

Feedback: During the development phase of the new products process, an item acquires finite form—a tangible good or a specific sequence of resources and activities that will perform an intangible service. It is also the phase during which the marketing plan is sketched and gradually fleshed out. Business practice varies immensely, but we often find the following components.

AACSB: Analytic  
Blooms: Remember

33. The \_\_\_\_\_ test is a critical step and a dress rehearsal for the launch of a new product, and managers hope any problems discovered are fixable between dress rehearsal and opening night.

A. market  
B. benefits  
C. concept  
D. utility

Feedback: During the development phase of the new products process, a critical step (if a company takes it) is the market test, a dress rehearsal for the launch, and managers hope any problems discovered are fixable between dress rehearsal and opening night. If not, the opening has to be delayed.

34. In which of the following phases of the new products process does market testing take place?

A. The opportunity identification and selection phase  
B. The concept generation phase  
C. The launch phase  
D. The concept or project evaluation phase

Feedback: A critical step during the launch phase of the new products process is the market test, a dress rehearsal for the launch, and managers hope any problems discovered are fixable between dress rehearsal and opening night. If not, the opening has to be delayed. Given the time pressures involved, managers have come up with many new ways to do reliable market tests quickly, to complement the familiar test market, which can be inordinately time-consuming and costly.

35. The concept evaluation phase of the new product process involves:

- A. collecting and generating new product concepts that fit an opportunity.
- B. preparing strategy, tactics, and launch details for the marketing plan.
- C. specifying the entire development process and its deliverables.
- D. assessing new product concepts on technical, marketing, and financial criteria.**

Feedback: Refer to figure 2.1. The concept or project evaluation phase of the new products process involves evaluating new products concepts (as they begin to come in) on technical, marketing, and financial criteria.

AACSB: Analytic  
Blooms: Understand  
Difficulty: 2 Medium

Topic: The Phases in the New Products Process

36. Which of the following is an evaluation task in the concept generation phase of the new products process?

- A. Deciding which direction to take
- B. Preparing progress reports
- C. Reviewing market testing
- D. Conducting an initial review**

Feedback: Refer to figure 2.2. Certain evaluation tasks are encountered in the new products process. Different kinds of questions need to be asked after different phases. For example, once concepts are generated, each is subject to an initial review: Is it any good, and is it worth refining?

AACSB: Analytic  
Blooms: Remember  
Difficulty: 1 Easy

Topic: Evaluation Tasks Throughout the New Products Process

37. In the context of the concept or project evaluation phase of the new products process, a \_\_\_\_\_ is a product definition that includes the intended market user, the problem perceived, the benefits the new product would have to have, plus any mandatory features.

- A. screening concept
- B. process concept
- C. protocol concept**
- D. pilot concept

Feedback: In the context of the concept or project evaluation phase of the new products process, a protocol concept is a product definition that includes the intended market user, the problem perceived, the benefits the new product would have to have, plus any mandatory features.

AACSB: Analytic  
Blooms: Remember

38. Which of the following is associated with the concept generation phase of the new products process?
- A. Protocol concept
  - B. Batch concept
  - C. Fully screened concept
  - D. Stated concept**

Feedback: In the concept generation phase of the new products process, a stated concept refers to a form or a technology, plus a clear statement of benefit.

39. With regard to the concept or project evaluation phase of the new product process, a prototype concept is best described as a:
- A. company skill or resource, or a customer problem.
  - B. form or a technology, plus a clear statement of benefit.
  - C. tentative physical product or system procedure, including features and benefits.**
  - D. product definition that includes the intended market user, the problem perceived, and the benefits that the new product would have to have.

Feedback: With regard to the concept or project evaluation phase of the new product process, a prototype concept is best described as a tentative physical product or system procedure, including features and benefits.

40. Which of the following is associated with the concept or project evaluation phase of the new products process?
- A. Idea concept
  - B. Prototype concept
  - C. Fully screened concept**
  - D. Stated concept

Feedback: A fully screened concept that passes the test of fit with a company's situation is developed during the concept/project evaluation phase of the new products process.

41. In the context of the development phase of the new products process, a \_\_\_\_\_ is best described as a tentative physical product or system procedure.

**A.** prototype concept  
B. tested concept  
C. fully screened concept  
D. stated concept

Feedback: A prototype concept is a tentative physical product or system procedure, including features and benefits.

AACSB: Analytic  
Blooms: Remember  
Difficulty: 1 Easy

Topic: Evaluation Tasks Throughout the New Products Process

42. Both market value and clarity are lowest for a(n):

A. protocol concept.  
B. idea concept.  
**C.** opportunity concept.  
D. stated concept.

Feedback: Refer to figure 2.3. With regard to the evolution from concept to new product, the market value and clarity are the lowest for an opportunity concept.

AACSB: Analytic  
Blooms: Remember  
Difficulty: 1 Easy

Topic: Evaluation Tasks Throughout the New Products Process

43. In which of the following phases of the new products process is the first full test-of-fit with manufacturing made?

A. The launch phase  
B. The opportunity identification phase  
C. The concept generation phase  
**D.** The development phase

Feedback: During the development phase of the new products process, the first full test-of-fit with manufacturing can be made. This is known as the batch concept. Specifications are written stating exactly what the product is to be, including features, characteristics, and standards.

AACSB: Analytic  
Blooms: Remember  
Difficulty: 1 Easy

Topic: Evaluation Tasks Throughout the New Products Process



44. Which of the following is true of the batch concept?

- A.** It is the first full test-of-fit with manufacturing.
- B. It is a form or a technology, plus a clear statement of benefit.
- C. It is a tentative physical product.
- D. It is a concept that passes the test of fit with a company's situation.

Feedback: During the development phase of the new products process, the first full test-of-fit with manufacturing can be made. This is known as the batch concept. Specifications are written stating exactly what the product is to be, including features, characteristics, and standards.

AACSB: Analytic  
Blooms: Remember  
Difficulty: 2 Medium

Topic: Evaluation Tasks Throughout the New Products Process

45. In the new products process, a cross-functional team:

- A. only includes members of the top management.
- B.** seeks to eliminate "over-the-wall" product development.
- C. discounts parallel processing.
- D. starts working on the project only in the later phases of the process.

Feedback: An empowered cross-functional team, including individuals from marketing, R&D, manufacturing, and other functional areas, that works on the project from the earliest phases, supports parallel processing and eliminates "over-the-wall" product development (for example, marketing or production do not even begin their participation until the product is out of technical product development).

AACSB: Analytic  
Blooms: Understand  
Difficulty: 2 Medium

Topic: Speeding the Product to Market

46. Digicon Inc. is a firm with mindshare in the category of digital cameras. With reference to this information, which of the following statements is true regarding the firm?

- A. The digital cameras manufactured by the firm are the cheapest in the market.
- B. The firm offers the widest range of digital cameras.
- C. The marketing plan employed by the firm is the best in the industry.
- D.** The digital cameras manufactured by the firm are seen as the standard for competitors to match.

Feedback: The digital cameras manufactured by Digicon are seen as the standard for competitors to match. A firm with mindshare in a given product category is the one that the target market associates with the product category and that is seen as the standard for competitors to match (such as Intel microprocessors, Tesla electric cars, or Apple or Samsung smartphones ).

AACSB: Reflective Thinking

*Blooms: Apply*  
*Difficulty: 3 Hard*  
*Topic: Speeding the Product to Market*

47. Services and goods are often arrayed on a scale which ranges from pure service to pure good. Where does an insurance policy stand on this scale?
- A. Pure service
  - B. Primarily service and partly a good**
  - C. Primarily a good and partly service
  - D. Pure good

Feedback: Services and goods are often arrayed on a scale of (1) pure service, (2) primarily service and partly a good, (3) primarily a good and partly service, and (4) pure good. Examples, in order, are counseling, insurance policy, automobile, and candy bar.

*AACSB: Analytic*  
*Blooms: Understand*  
*Difficulty: 2 Medium*  
*Topic: What about New Services?*

48. Early, nonfunctional versions of proposed new products, called \_\_\_\_\_, are tested with customers, who express likes, dislikes, purchase intentions, and so on.
- A. product props
  - B. focused prototypes**
  - C. product charters
  - D. batch concepts

Feedback: An early, nonworking version of the product, called a focused prototype, is built in order to obtain feedback from prospective customers, who express likes, dislikes, purchase intentions, and so on. This might be a new cell phone made of wood or foam, or perhaps it is a plastic nonfunctioning prototype that looks real but lacks wires.

*AACSB: Analytic*  
*Blooms: Remember*  
*Difficulty: 2 Medium*  
*Topic: Spiral Development and the Role of Prototypes*

49. Identify the new products process where, through interaction with customers, designers are inspired to probe, experiment, and improvise, and as a result, may come up with a successful new-to-the-world product.

**A.** Probe-and-learn  
B. Consumer analysis  
C. Mind sharing  
D. Concept redefining

Feedback: The probe-and-learn process involves interaction with customers such that designers are inspired to probe, experiment, and improvise, and as a result, may come up with a successful new-to-the-world product.

*AACSB: Analytic  
Blooms: Remember  
Difficulty: 1 Easy*

*Topic: Spiral Development and the Role of Prototypes*

50. Identify the term used to describe the iterative process where the developing team develops prototypes from dozens of different new product ideas, eventually settling on a prototype that customers like.

A. Focused prototype method  
B. Prototype analysis  
**C.** Lickety-stick  
D. Concept improvisation

Feedback: Through interaction with customers, designers are inspired to probe, experiment, and improvise, and as a result, may come up with a successful new-to-the-world product. Another term sometimes used to describe this iterative process is lickety-stick where the developing team develops prototypes from dozens of different new product ideas ("lickety"), eventually settling on a prototype that customers like ("stick").

*AACSB: Analytic  
Blooms: Remember  
Difficulty: 1 Easy*

*Topic: Spiral Development and the Role of Prototypes*

51. The objective of agile product development, a complementary process to the phased new product process that has gained popularity in the software industry, is to:
- A. create tangible products using stringent and inflexible processes.
  - B. provide customer satisfaction by continuous software improvement and delivery.**
  - C. reduce the interaction between the service providers and the customers.
  - D. restrict the autonomy of the product development teams.

Feedback: A complementary process to the phased new product process is agile product development. This has gained popularity in the software industry because of the continuous and incremental nature of the development process. The objective of agile product development is to provide customer satisfaction by continuous software improvement and delivery.

*AACSB: Analytic  
Blooms: Remember  
Difficulty: 1 Easy  
Topic: Agile Product Development*

52. Which of the following refers to a blending of agile product development with the traditional new products process and has been successfully employed with computer hardware and other manufactured goods?
- A. Accelerated Product Development
  - B. Quality Function Deployment
  - C. Agile-Stage-Gate**
  - D. Agile-Process-Launch

Feedback: Although agile product development originated in the software industry, there is some evidence that its principles can be adapted to manufactured products as well, especially in cases of high uncertainty and significant customer involvement. Agile-Stage-Gate, a blending of agile product development with the traditional new products process, has been successfully employed with computer hardware and other manufactured goods.

*AACSB: Analytic  
Blooms: Remember  
Difficulty: 1 Easy  
Topic: Agile Product Development*

## Essay Questions

53. Discuss the concept or project evaluation phase of the new products process.

Answer: Before development work can begin on new ideas, they need to be evaluated, screened, and sorted out. Depending on the idea, this may be end-user screening or technical screening, or both. The work may be extensive and difficult, or it may take no more than a few phone calls or e-mails. End-user concept tests are performed and need of the concept is confirmed. A fully screened concept is generated during this phase, a concept which passes the test of fit with the company's situation. A product definition that includes the intended market user, the problem perceived, the benefits plus any mandatory features is also generated during this phase, and it is known as protocol concept.

*AACSB: Analytic  
Blooms: Understand  
Difficulty: 2 Medium*

*Topic: The Phases in the New Products Process*

54. Discuss the five methods to accelerating time to market as identified by new products consultant Robert Cooper.

Answer: The five methods to accelerating time to market as identified by new products consultant Robert Cooper are:

- A clear product innovation charter—doing the opportunity identification homework and having a clean product definition—leads to better product design specifications and less time lost due to "recycling" (returning to earlier phases in the process to fix errors).
- A third-generation new products process that permits overlapping phases or parallel processing results in more getting accomplished in a shorter span of time; streamlined evaluation tasks means that less time is wasted in evaluation.
- A portfolio management approach minimizes the chance that the firm's human and financial resources are spread too thinly over too many projects; better project selection focuses the firm's scarce resources and uses them more efficiently.
- A focus on quality at every phase complements the PIC; by following the adage "do it right the first time," the firm will avoid unnecessary recycling.
- An empowered cross-functional team, including individuals from marketing, R&D, manufacturing, and other functional areas, that works on the project from the earliest phases, supports parallel processing and eliminates "over-the-wall" product development.

*AACSB: Analytic  
Blooms: Understand  
Difficulty: 2 Medium*

*Topic: Speeding the Product to Market*

55. Discuss the risks and guidelines of speeding to market.

Answer: There are plenty of advantages to speeding to market, not the least of which is that the product that is launched early is on the market for a longer period of time before becoming obsolete. A launch delay of, say, six months means six months less to earn profits and may give a competitor a chance to be first to market and establish a positive reputation. Nevertheless, there are lots of costs involved in speed, costs that are not evident and which can sometimes be disastrous. A firm facing increased competitive intensity, rapid technological change, and fast-changing market demographics may be tempted to concentrate on only easy, incremental product projects, or to cut critical steps in the new products process in order to get cycle time down. Cutting corners in technical product development may result in quality sacrifices, resulting in annoyed customers and distributors. By rushing the early steps, the firm may decide late in the process that the product quality is inadequate, which delays the launch, further infuriates dealers, and encourages customers to drift to the competition. Another related concern is that accelerating time to market might result in bringing the product out too soon, while it still has bugs.

*AACSB: Analytic  
Blooms: Understand  
Difficulty: 2 Medium  
Topic: Speeding the Product to Market*

56. Identify the factors responsible for the high failure rates of new-to-the-world products with relevant examples.

Answer: Part of the reason for the high rate of failure for new-to-the-world products is that they are difficult to manage. Almost by definition, new-to-the-world products, like the first cell phone or the first personal computers, require discontinuities (sometimes several of them) in order to succeed. Consider the introduction of the personal computer. Contributing to its rapid adoption were discontinuities in technology (computer companies, including some new startups, had to design essentially a totally new computer), in the market (individual homeowners and small businesses now were buying computers, and not just big firms), organizational (personal computers were sold in electronics shops and department stores, not through a professional sales force), and social (millions of people realized how much they needed a computer). To do incubation correctly, failure must be tolerated, but at the same time learning from the failure so that a firm continues to move toward a successful launch. Business development is often done over a one- to two-year time horizon and may be completely done by marketing or management personnel. Due to its focus on business model development for a radical innovation (in an uncertain environment), the time horizon for incubation can be three to five years, and typically technical development, as well as customer and market interaction, is involved.

*AACSB: Analytic  
Blooms: Understand  
Difficulty: 3 Hard  
Topic: Speeding the Product to Market*

57. Discuss the role of serial innovators in the new products process.

Answer: Serial innovators are usually mid-level, technical employees who think and work differently and follow their own new products process. The reason serial innovators are so good at breakthrough innovation is that they know how to bridge the gap between technology and market. They do this in iterative fashion. Generally, they begin by identifying and fully understanding a customer problem, and then discover possible technical solutions to those problems. They oscillate between customer need and technology solution. The "process" followed by serial innovators is arguably not a process at all, since that implies a series of steps and a fixed order. There are several activities that need to be done, but there is no particular order and a lot of recycling and rethinking is necessary and expected. These steps include:

- Finding a problem that is important to customers, checking potential market size and revenue stream.
- Understanding the problem, including technology, currently available solutions, competition, and customer requirements.
- Determining if the problem is interesting to enough customers willing to pay for it, and also interesting to the firm in terms of fitting with product strategy.
- Inventing a solution to the problem and checking for customer acceptance with a prototype.
- Ensuring that the product goes into development, then gaining market acceptance for the product.

It is clear how serial innovators differ from other technology employees. They have a deeper understanding of customers, the firm's product strategy, and political processes, and can act themselves as the product champion. They focus not just on solving customer problems, but on understanding the situation so well, from so many different perspectives, that they find the optimal solution to the customer problem. They can handle discovery, invention, and launch themselves, and therefore are highly valuable to the firm, and allow the firm to be consistently successful with radical new products.

*AACSB: Analytic  
Blooms: Understand  
Difficulty: 3 Hard  
Topic: The Role of the Serial Innovator*