

## Chapter 14

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# Project Management: Establishing the Business Value of Systems and Managing Change

### True-False Questions

1. Between 30 and 40 percent of all software projects are “runaway” projects that far exceed original schedule and budget projections.  
**Answer: False**                      **Difficulty: Medium**                      **Reference: p. 556**
2. The information systems steering committee is composed of information systems managers and end-user managers responsible for overseeing several specific information systems projects.  
**Answer: False**                      **Difficulty: Hard**                      **Reference: p. 558**
3. An information systems plan contains a statement of corporate goals and specifies how information technology will support the attainment of those goals.  
**Answer: True**                      **Difficulty: Medium**                      **Reference: p. 559**
4. If an intended benefit of an IT project is improved decision making, managers should develop a set of metrics to quantify the value of an improved decision.  
**Answer: True**                      **Difficulty: Medium**                      **Reference: p. 559**
5. Scoring models are used most commonly to support decisions rather than as the final arbiters of system selection.  
**Answer: True**                      **Difficulty: Medium**                      **Reference: p. 565**
6. Transaction and clerical systems that displace labor and save space typically produce more measurable, tangible benefits than management information systems  
**Answer: True**                      **Difficulty: Hard**                      **Reference: p. 565**
7. A benefit of using TCO analysis to evaluate an information technology investment is that it is able to incorporate intangible and “soft” factors such as benefits and complexity costs.  
**Answer: False**                      **Difficulty: Medium**                      **Reference: p. 565**

8. Intangible benefits cannot be immediately quantified but may lead to quantifiable gains in the long run.
- Answer: True**                      **Difficulty: Easy**                      **Reference: p. 565**
9. More timely information is a tangible benefit of information systems.
- Answer: False**                      **Difficulty: Medium**                      **Reference: p. 566**
10. The IRR calculates the rate of return from an investment by adjusting the cash inflows produced by the investment for depreciation.
- Answer: True**                      **Difficulty: Easy**                      **Reference: p. 570**
11. Real options pricing models use the concept of options valuation borrowed from the financial industry.
- Answer: True**                      **Difficulty: Easy**                      **Reference: p. 571**
12. The systems analyst is the catalyst for the entire change process and is responsible for making sure that everyone involved accepts the changes created by a new system.
- Answer: True**                      **Difficulty: Easy**                      **Reference: p. 573**
13. The relationship between users and information systems specialists has traditionally been a problem area for information systems implementation efforts.
- Answer: True**                      **Difficulty: Easy**                      **Reference: p. 573**
14. User concerns and designer concerns are usually the same at the beginning of the project but may diverge later as the system is built.
- Answer: False**                      **Difficulty: Medium**                      **Reference: p. 573**
15. Formal planning and control tools allow for all aspects of the implementation process to be controlled or planned.
- Answer: False**                      **Difficulty: Medium**                      **Reference: p. 575**
16. A Gantt chart graphically depicts project tasks and their interrelationships.
- Answer: False**                      **Difficulty: Medium**                      **Reference: p. 575**
17. Counterimplementation refers to a deliberate strategy to thwart the implementation of an information system or an innovation in an organization.
- Answer: True**                      **Difficulty: Medium**                      **Reference: p. 580**

18. Mandatory use of a system is one effective way of overcoming user resistance to an information system.

**Answer: False**

**Difficulty: Medium**

**Reference: p. 580**

19. The design of jobs, health issues, and the end-user interface of information systems are all considerations in the field of ergonomics

**Answer: True**

**Difficulty: Medium**

**Reference: pp. 580–582**

20. The goal of sociotechnical design is to create systems with better user interfaces and contribute to fewer health issues.

**Answer: False**

**Difficulty: Hard**

**Reference: p. 583**

### Multiple-Choice Questions

21. In the chapter case study on A.G. Edwards, improvements in its information systems projects were achieved:

- a. primarily through implementing a systems-wide view of project management.
- b. through use of a structured, enterprise-wide definitions of project management techniques, such as requirements gathering and task assignment.
- c. through the combined use of a framework for managing projects and management training.
- d. through the adaptation of stricter measurements of project success and failure.

**Answer: a**

**Difficulty: Medium**

**Reference: pp. 553–554**

22. On average, private sector IT projects underestimated budget and delivery time of systems by:

- a. 30 percent
- b. 40 percent
- c. 50 percent
- d. 60 percent

**Answer: c**

**Difficulty: Medium**

**Reference: p. 556**

23. The major variables in project management are:

- a. scope, time, cost, and performance.
- b. scope, time, cost, quality, and risk.
- c. time, cost, quality, performance, and risk.
- d. time, cost, scope, and performance.

**Answer: b**

**Difficulty: Medium**

**Reference: p. 556**

24. A road map indicating the direction of systems development, the rationale, the current systems, new developments to consider, the management strategy, the implementation plan, and the budget is called a(n):

- a. project plan.
- b. portfolio analysis.
- c. information systems plan.
- d. enterprise analysis.

**Answer: c**

**Difficulty: Easy**

**Reference: p. 559**

25. Two principal methodologies for establishing the essential information requirements of the organization as a whole are:

- a. enterprise analysis and portfolio analysis.
- b. business systems planning and critical success factors.
- c. enterprise analysis and business systems planning.
- d. capital budgeting and portfolio analysis.

**Answer: b**

**Difficulty: Medium**

**Reference: p. 559**

26. The central method used in an enterprise analysis is to:

- a. inventory all of the organization's information systems projects and assets.
- b. perform a weighted comparison of the criteria used to evaluate a system.
- c. survey a large sample of managers on their objectives, decision-making process, and uses and needs for data and information.
- d. interview a small number of top managers to identify their goals and criteria for achieving success.

**Answer: c**

**Difficulty: Medium**

**Reference: p. 559**

27. The central method used in a strategic analysis is to:
- inventory all of the organization's information systems projects and assets.
  - perform a weighted comparison of the criteria used to evaluate a system.
  - survey a large sample of managers on their objectives, decision-making process, and uses and needs for data and information.
  - interview a small number of top managers to identify their goals and criteria for achieving success.

**Answer: d**

**Difficulty: Medium**

**Reference: p. 562**

28. The central method used in a scoring model is to:
- inventory all of the organization's information systems projects and assets.
  - perform a weighted comparison of the criteria used to evaluate a system.
  - survey a large sample of managers on their objectives, decision-making process, and uses and needs for data and information.
  - interview a small number of top managers to identify their goals and criteria for achieving success.

**Answer: b**

**Difficulty: Medium**

**Reference: p. 564**

29. The central method used in a portfolio analysis is to:
- inventory all of the organization's information systems projects and assets.
  - perform a weighted comparison of the criteria used to evaluate a system.
  - survey a large sample of managers on their objectives, decision-making process, and uses and needs for data and information.
  - interview a small number of top managers to identify their goals and criteria for achieving success.

**Answer: a**

**Difficulty: Medium**

**Reference: p. 563**

30. The weakness of enterprise analysis is that:
- it has a tendency to focus on automating existing processes rather than developing new business processes.
  - there is no particularly rigorous way in which the results can be aggregated into a clear company pattern.
  - what may be considered critical to a manager may not be important for the organization as a whole.
  - the questions focus too heavily on management's critical objectives.

**Answer: a**

**Difficulty: Medium**

**Reference: p. 561**

31. A CSF approach to establishing an enterprise's information requirements is especially suitable for:
- distinguishing between individual and organizational objectives.
  - identifying the key entities and attributes of the organization's data.
  - understanding how organizational units define critical data.
  - the development of DSSs and ESSs.

**Answer: d**                      **Difficulty: Hard**                      **Reference: p. 562**

32. Which method is used to develop risk profiles for a firm's information system projects and assets?
- Information systems plan
  - Scoring model
  - Portfolio analysis
  - CSF

**Answer: c**                      **Difficulty: Medium**                      **Reference: p. 563**

33. You have been hired by a pharmaceutical company to evaluate its inventory of systems and IT projects. Which types of projects would be best avoided?
- Any high risk projects
  - Any low-benefit projects
  - All high-risk, low benefit projects
  - None, any project might be beneficial

**Answer: c**                      **Difficulty: Medium**                      **Reference: p. 563**

34. Which method is used to assign weights to various features of a system?
- Information systems plan
  - Scoring model
  - Portfolio analysis
  - CSF

**Answer: b**                      **Difficulty: Easy**                      **Reference: p. 564**

35. The criteria used for evaluation in a scoring model are usually determined by:
- lengthy discussions among the decision-making group.
  - a CSF analysis.
  - the IS steering committee.
  - systems analysts.

**Answer: a**                      **Difficulty: Hard**                      **Reference: p. 564**

36. The worth of systems from a financial perspective essentially revolves around the issue of:
- CSFs.
  - adherence to information requirements.
  - asset utilization.
  - return on invested capital.

**Answer: d**                      **Difficulty: Easy**                      **Reference: p. 565**

37. The principal capital budgeting models for evaluating information technology projects are the payback method, the accounting rate of return on investment (ROI), the net present value, and:
- the future present value.
  - the internal rate of return.
  - the external rate of return.
  - ROPM.

**Answer: b**                      **Difficulty: Medium**                      **Reference: p. 565**

38. \_\_\_\_\_ are all tangible benefits of information systems.
- Improved asset utilization, increased organizational learning, and improved operations
  - Reduced workforce, lower outside vendor costs, and increased productivity
  - Increased productivity, reduced workforce, and increased job satisfaction
  - Lower operational costs, improved resource control, and more information

**Answer: b**                      **Difficulty: Medium**                      **Reference: p. 566**

39. \_\_\_\_\_ are all intangible benefits of information systems.
- Improved asset utilization, increased organizational learning, and improved operations
  - Reduced workforce, lower outside vendor costs, and increased productivity
  - Increased productivity, reduced workforce, and increased job satisfaction
  - Lower operational costs, improved resource control, and more information

**Answer: a**                      **Difficulty: Medium**                      **Reference: p. 566**

40. The payback method of capital budgeting:
- is the amount of money an investment is worth, taking into account its cost, earnings, and the time value of money
  - calculates the rate of return from an investment by adjusting the cash inflows produced by the investment for depreciation
  - is defined as the rate of return or profit that an investment is expected to earn, taking into account the time value of money
  - is a measure of the time required to pay back the initial investment of a project

**Answer: d**                      **Difficulty: Medium**                      **Reference: p. 567**

41. To determine the ROI of an investment, you must first calculate the:

- a. net present value.
- b. present value.
- c. average net benefit.
- d. IRR.

**Answer: c**

**Difficulty: Hard**

**Reference: p. 569**

42. The net present value:

- a. is the amount of money an investment is worth in today's dollars, taking into account its cost, earnings, and the time value of money.
- b. calculates the rate of return from an investment by adjusting the cash inflows produced by the investment for depreciation.
- c. is defined as the rate of return or profit that an investment is expected to earn, taking into account the time value of money.
- d. is a measure of the time required to pay back the initial investment of a project.

**Answer: a**

**Difficulty: Medium**

**Reference: p. 570**

43. The interest rate that will equate the present value of a project's future cash flows to the initial cost of the project is the:

- a. IRR.
- b. ROI.
- c. net present value.
- d. ROPM.

**Answer: a**

**Difficulty: Medium**

**Reference: p. 570**

44. To best evaluate, from a financial standpoint, an IT investment whose benefits cannot be firmly established in advance, you would use:

- a. capital budgeting.
- b. real option pricing model.
- c. scoring model.
- d. net present value.

**Answer: b**

**Difficulty: Medium**

**Reference: p. 571**

45. Information systems projects are valued similarly to stock options in which model of financial evaluation?

- a. IRR
- b. Real options pricing model
- c. Capital budgeting
- d. Accounting rate of return on ROI

**Answer: a**

**Difficulty: Medium**

**Reference: p. 571**



46. The level of a project's risk is influenced primarily by:
- project size, project structure, and the level of technical expertise.
  - project cost, project scope, and the implementation plan.
  - project scope, project schedule, and project budget.
  - project size, project scope, and the level of technical expertise.

**Answer: a**                      **Difficulty: Medium**                      **Reference: p. 572**

47. The project risk will rise if the project team and the IS staff lack:
- legacy applications as a starting point.
  - good equipment.
  - the required technical expertise.
  - financial studies and plans.

**Answer: c**                      **Difficulty: Hard**                      **Reference: p. 572**

48. Users prefer systems that:
- are oriented to facilitating organizational tasks and solving business problems.
  - work with existing DBMS.
  - are able to provide optimum hardware and software efficiency.
  - are capable of storing much more data than they need.

**Answer: a**                      **Difficulty: Medium**                      **Reference: p. 573**

49. Which of the following is not one of the activities of the systems analyst:
- acting as a change agent.
  - communication with users.
  - mediating between competing interest groups.
  - formulation of capital budgeting models.

**Answer: d**                      **Difficulty: Easy**                      **Reference: p. 573**

50. The organizational activities working toward the adoption, management, and routinization of a new information system are called:
- production.
  - maintenance.
  - implementation.
  - acceptance.

**Answer: c**                      **Difficulty: Easy**                      **Reference: p. 573**

51. According to your reading of the chapter, change management is a process that:
- a. should be addressed before a project is developed.
  - b. begins when a project is implemented.
  - c. is used primarily to mandate user acceptance.
  - d. must be addressed in all systems development.

**Answer: a**                      **Difficulty: Easy**                      **Reference: p. 573**

52. An example of an implementation problem is:
- a. poor user interface.
  - b. inadequate user training.
  - c. project running over budget.
  - d. changes in job activities and responsibilities.

**Answer: b**                      **Difficulty: Medium**                      **Reference: p. 573**

53. The communications gap between users and systems designers is created by their differences in:
- a. backgrounds.
  - b. interests.
  - c. priorities.
  - d. all of the above.

**Answer: d**                      **Difficulty: Easy**                      **Reference: p. 573**

54. Which of the following types of projects is most likely to fail?
- a. Integration of a third-party automated payment system
  - b. Replacement of middleware with Web services for legacy application integration
  - c. A business process redesign project that restructures workflow and responsibilities
  - d. Redesigning a user interface to an online investment site

**Answer: c**                      **Difficulty: Medium**                      **Reference: p. 574**

55. Which of the following tools would you use to control risk factors in an information systems project?
- a. Internal integration tools
  - b. External integration tools
  - c. Formal planning tools and formal control tools
  - d. All of the above

**Answer: d**                      **Difficulty: Easy**                      **Reference: p. 575**

56. Internal integration tools:

- a. enable a project to have sufficient technical support for project management and development.
- b. enable a project manager to properly document and monitor project plans.
- c. portray a project as a network diagram with numbered nodes representing project tasks.
- d. consist of ways to link the work of the implementation team with users at all organization levels.

**Answer: b**

**Difficulty: Medium**

**Reference: p. 575**

57. External integration tools:

- a. enable a project to have sufficient technical support for project management and development.
- b. enable a project manager to properly document and monitor project plans.
- c. portray a project as a network diagram with numbered nodes representing project tasks.
- d. consist of ways to link the work of the implementation team with users at all organization levels.

**Answer: d**

**Difficulty: Medium**

**Reference: p. 575**

58. Formal planning and control tools:

- a. enable a project to have sufficient technical support for project management and development.
- b. enable a project manager to properly document and monitor project plans.
- c. portray a project as a network diagram with numbered nodes representing project tasks.
- d. consist of ways to link the work of the implementation team with users at all organization levels.

**Answer: b**

**Difficulty: Medium**

**Reference: p. 575**

59. An example of an internal integration tool would be to:

- a. define task dependencies.
- b. include user representatives as active members of the project team.
- c. create a PERT chart.
- d. hold frequent project team meetings.

**Answer: d**

**Difficulty: Medium**

**Reference: p. 575**

60. An example of an external integration tool would be to:

- a. define task dependencies.
- b. include user representatives as active members of the project team.
- c. create a PERT chart.
- d. hold frequent project team meetings.

**Answer: d**

**Difficulty: Medium**

**Reference: p. 580**

61. Which type of planning tool shows each task as a horizontal bar whose length is proportional to the time required to complete it?
- a. PERT chart
  - b. Gantt chart
  - c. Both a and b
  - d. Neither a nor b

**Answer: b**                      **Difficulty: Medium**                      **Reference: p. 575**

62. To review a project's tasks and their interrelationships, you would use a:
- a. PERT chart.
  - b. Gantt chart.
  - c. Either a or b.
  - d. Neither a nor b.

**Answer: a**                      **Difficulty: Medium**                      **Reference: p. 579**

63. Which type of tool helps project managers identify bottlenecks in project development?
- a. Internal integration tools
  - b. External integration tools
  - c. Formal planning and control tools
  - d. Both b and c

**Answer: c**                      **Difficulty: Easy**                      **Reference: p. 579**

64. According to the chapter case discussing mergers and acquisitions, what is the most predominant cause for the fact that 60 percent of M&As result in falling stock value for the acquiring company?
- a. The acquiring firm underestimates the risks in merging IT infrastructures.
  - b. Target companies often have outdated information systems or have stopped spending on IT investments.
  - c. Target companies rarely have IT systems that are compatible with the acquiring firm.
  - d. Acquiring firms tend to build entirely new information systems rather than inventorying all existing systems and choosing to keep only those with proven value.

**Answer: a**                      **Difficulty: Medium**                      **Reference: p. 576**

65. As discussed in the chapter case, which of the following difficulties proved the most challenging to Wallace, Welch, and Willingham in the implementation of its new CRM system?
- a. User-designer communications gap
  - b. Management support
  - c. Managing the change in business process
  - d. User acceptance

**Answer: d**                      **Difficulty: Medium**                      **Reference: p. 581**

66. Which of the following tools may help identify risk areas associated with employee acceptance of a new information system?
- Formal planning and control tools
  - Organizational impact analysis
  - System prototype
  - Feasibility study

**Answer: b**                      **Difficulty: Medium**                      **Reference: p. 582**

67. Which of the following is not an organizational dimension of information systems?
- Standards and performance monitoring
  - Government regulatory compliance
  - Health and safety
  - User interface

**Answer: d**                      **Difficulty: Medium**                      **Reference: pp. 582–583**

68. In sociotechnical design:
- separate sets of technical and social design solutions are developed and compared.
  - ergonomic features of a system and the system's technical design are given equal importance.
  - systems analysts with proven backgrounds in sociological concerns rate and compare a system's social and technical aspects.
  - all of the above.

**Answer: a**                      **Difficulty: Medium**                      **Reference: p. 583**

69. The most widely used project management software today is:
- Vertabase.
  - IBM Project Guide.
  - Microsoft Project.
  - Microsoft Excel.

**Answer: c**                      **Difficulty: Easy**                      **Reference: p. 583**

70. As per the chapter case study on Maine's Medicaid claim processing system, which of the following tools would have done the most to prevent the challenges presented by its new information system?
- PERT and Gantt charts
  - External integration tools
  - Internal integration tools
  - Formal planning and control tools

**Answer: b**                      **Difficulty: Hard**                      **Reference: pp. 589–591**

### Fill in the Blanks

71. ***Project management*** refers to the application of knowledge, skills, tools and techniques to achieve specific targets within specified budget and time constraints.
- Difficulty: Easy**                      **Reference: p. 557**
72. An ***information systems plan*** contains a statement of corporate goals and specifies how information technology will support the attainment of those goals.
- Difficulty: Easy**                      **Reference: p. 559**
73. ***Enterprise analysis/business systems planning*** argues that the firm's information requirements can be understood only by examining the entire organization in terms of organizational units, functions, processes, and data elements.
- Difficulty: Medium**                      **Reference: p. 559**
74. In portfolio analysis, low benefit, ***high*** risk systems should be avoided.
- Difficulty: Medium**                      **Reference: p. 563**
75. A(n) ***scoring model*** is a method for deciding among alternative systems based on a system of ratings for selected objectives.
- Difficulty: Medium**                      **Reference: p. 564**
76. ***Tangible benefits*** are those than can be quantified and assigned a monetary value.
- Difficulty: Easy**                      **Reference: p. 565**
77. ***Capital budgeting*** methods rely on measures of cash flows into and out of the firm.
- Difficulty: Easy**                      **Reference: p. 566**
78. A(n) ***change agent*** is the individual who acts as the catalyst to ensure successful adaptation to a new system or innovation.
- Difficulty: Medium**                      **Reference: p. 573**
79. A(n) ***user-designer communications gap*** occurs when there is a difference in background, interests and priorities that impede communication and problem solving among users and IS specialists.
- Difficulty: Medium**                      **Reference: p. 573**

80. ***Ergonomics*** is the interaction of people and machines in the work environment, including the design of jobs, health issues, and the end-user interface of information systems.

**Difficulty: Medium**

**Reference: p. 580**

### Essay Questions

81. **You are working as a project manager for a small IT consulting firm and have been asked to create a plan for reviewing and auditing completed projects in order to gauge their success. What factors will you use to measure the success of a project? What questions would you ask in order to understand why a project succeeded or failed?**

Student answers will vary but should include an understanding of the main project variables: Scope, time, cost, quality, and risk. A sample answer is:

The factors I would use are:

- **Cost:** What was the original budget and final budget
- **Time:** What was the original schedule and final schedule
- **Quality:** Did the project meet the requirements outlined in the project plan
- **Scope:** Did the scope of the project change?

Questions I would ask to understand the success or failure of the project would be:

- What technical difficulties were experienced and which could have been foreseen?
- What risks did the project entail?
- What events led to the scope changing?
- What difficulties occurred that were a consequence of personal, employee-oriented problems?
- What difficulties occurred that were a consequence of environmental, organizational, or managerial challenges?
- What do project team members consider as the primary challenges?
- What do clients or stakeholders consider as the primary challenges?

**Difficulty: Medium**

**Reference: p. 557**

82. **Describe the elements of a management structure for information systems projects in a large corporation.**

In a large corporation, the management structure typically consists of (from top to bottom levels in the hierarchy):

- **Corporate strategic planning group:** The higher level group of managers responsible for developing the firm's strategic plan.
- **Information systems steering committee:** A senior management group with responsibility for systems development and operation.
- **Project management:** A group of information systems managers and end-user managers responsible for overseeing several specific information systems projects.
- **Project team:** The group directly responsible for the individual systems project, consisting of systems analysts, specialists from the relevant end-user business areas, application programmers, and perhaps database specialists.

**Difficulty: Medium**

**Reference: p. 558**

83. **List five categories of information that should be included in an information systems plan.**

General categories of information included in an information plan are:

- Purpose of the plan
- Business rationale
- Current systems or situation
- New developments to consider
- Management strategy
- Implementation plan
- Budget

**Difficulty: Hard**

**Reference: p. 559**

84. **You have been hired as a consultant for a nationwide real estate firm who are interested in achieving better organization between branches by updating their information systems. Will you conduct an enterprise analysis or use a CSF approach to gain an understanding of the corporation's information requirements? List at least two reasons why you feel this is the better approach.**

Student answers will vary: An example answer is: I would choose an enterprise analysis because this will (1) give a better idea of the types of information that need to be shared. Also, (2) since the goal is the sharing of information, rather than reorganizing, I will need an understanding of all the current information and process flows. A CSF approach would be better if the information system were primarily for decision support or executive support and geared toward top managers.

**Difficulty: Medium**

**Reference: pp. 559–563**



85. **Describe the process of portfolio analysis. In what situations is this evaluation method useful?**

Portfolio analysis inventories all of the organization's information systems projects and assets, including infrastructure, outsourcing contracts, and licenses. Each project can be described as having a profile of risk and benefit to the firm, similar to the financial portfolio. In a portfolio analysis, you would list the various systems projects and rate them according to their potential risks and benefits. You would use the portfolio analysis to determine which potential projects should be pursued and which should be modified or abandoned. High risk, low benefit projects should be avoided, while low-risk, high benefit projects would be at the top of the list. High-benefit, high-risk projects and low-risk, low-benefit projects would be reexamined to see if they could be modified to better fit with the company's strategic plans. A mix of profiles could also be defined as acceptable in terms of the company's overall plans, much as is done with a financial portfolio.

**Difficulty: Easy**

**Reference: p. 563**

86. **You have been hired as a consultant to make recommendations for Smarty's, a healthy fast-food chain that is undergoing major expansion and is in need of a supply chain planning system. They are evaluating two commercially available software packages. What systems evaluation model will help them assess and compare the two packages? How does this model work?**

A scoring model can be used for selecting projects where many criteria must be considered. It assigns weights to various features of a system and then calculates the weighted totals. What Smarty's would do is have decision makers such as top managers list the various features they feel are important to have in the system, such as the processes that need support or reports they may need from the system. Each feature, or criteria, the managers list is given a weight, or rating, in terms of how important it is overall to have in the system. Each package then is evaluated in terms of the percentage of requirements it contributes or supports for each criteria. In the scoring model, you multiply the weight with the software's percentage of contribution to arrive at a score for each criteria. The scores of both software packages are totaled and compared to see overall their contribution to fulfilling the company's requirements.

**Difficulty: Medium**

**Reference: p. 564**

87. **Differentiate between intangible and tangible benefits and list three examples of each. In what types of systems are intangible benefits more predominant?**

Tangible benefits can be quantified and given a monetary value. For example, a monetary value can be given to increased productivity, lower operational costs, reduced workforce, lower computer expenses, lower outside vendor costs, lower clerical and professional costs, reduced rate of growth in expenses, and reduced facility, telecommunications, software, services, and personnel costs.

Intangible benefits cannot be immediately quantified but may lead to quantifiable gains in the long run such as higher sales. Examples of intangible benefits include: improved asset utilization, resource control, organizational planning, decision making, operations; increased flexibility, learning, job satisfaction, client satisfaction, employee goodwill, more timely information and more information, the fulfillment of legal requirements and a better corporate image.

Systems that produce more intangible benefits are MIS, DSS, and collaborative work systems.

**Difficulty: Medium**      **Reference: pp. 565–566**

88. **List and describe the four principle capital budgeting models. In what situations are these models not useful?**

- The payback method is a measure of the time required to pay back the initial investment of a project.
- The accounting rate of return on investment (ROI) calculates the rate of return from an investment by adjusting the cash inflows produced by the investment for depreciation.
- The net present value is the amount of money an investment is worth, taking into account its cost, earnings, and the time value of money.
- Internal rate of return (IRR) is defined as the rate of return or profit that an investment is expected to earn, taking into account the time value of money. IRR is the discount (interest) rate that will equate the present value of the project's future cash flows to the initial cost of the project.

These models may not be useful for some information systems projects, especially when their future revenue streams are unclear and the upfront costs are high, and the benefits may be more intangible than tangible. (In such cases, managers might benefit from using real options pricing models to evaluate information technology investments.)

**Difficulty: Hard**      **Reference: pp. 567–570**

89. **You are the senior project manager for a Web development company with upwards of 100 current client projects. You have been assigned to evaluate two upcoming projects. One project is to develop a time tracking solution that would allow your 20 freelancers to submit daily time sheets and would report on the time spent on each project. The other project is to redesign the client interface to the company extranet to make it easier to use. The extranet allows clients to log in and view their current Web sites under development, as well as view project statistics, documents, and progress reports. Compare the two projects in terms of risk factors.**

Student answers will vary but should include an understanding of the main risks factors: size, structure, and technical expertise. An example answer is:

The main risk factors are size, structure, and technical expertise.

- **Size.** The time-tracking project is a larger project: It involves creating new programming that may interface with back-end systems and will immediately influence payment and cost. It also affects business processes. Redesigning an interface for the client extranet may simply be designing one or two pages that will be replicated for each client once the initial design is done.
- **Structure.** It may be easier to define the requirements of the time-tracking software, as this process is relatively straightforward. Understanding what makes the user interface problematic and defining ways to make it easier to use is somewhat of a less tangible quality than reporting on time, so this may be a concern in the second project.
- **Technical expertise.** Since the time-tracking project is a new application, there may be some issues of making sure any in-house staff has the appropriate level of expertise. The user interface involves working with existing programming that will not change. However, there may be a need to make sure that an expert who understands usability is present.

**Difficulty: Medium**

**Reference: p. 572**

90. **Americlinic, a national chain of budget health-care clinics, is creating an information system that will allow patients and doctors at participating franchises to communicate online. The goal of the system is to allow doctors to respond to minor health questions quickly and more efficiently, saving patients unnecessary visits to the clinic. This will be a major procedural change. What steps would you recommend to this company to ensure the user acceptance of the system?**

The first step should be to conduct an organizational impact analysis, to determine the changes in procedures, job function, organizational structure, power relationships, and behavior that this system requires or will engender. Any organizational changes should occur prior to implementing the system. In order to gain compliance and support of the doctors, I would establish a review committee of influential participating doctors and change agents to discuss the system prior to development and during development in order to meet physician needs and requirements. I would also involve focus groups of intended users to review prototypes of the system to make sure it is easy to use, and hopefully easier to use in the relevant health situations than going to the doctor. The company will need to make sure that there is also an option for users that do not have Internet access. User training for doctors and nurses will be essential. The company should also consider incentives for doctors and patients that use the system.

**Difficulty: Medium**

**Reference: pp. 573–574,  
580–583**