

Chapter 2: Information Systems Defined

MULTIPLE CHOICE QUESTIONS

1. Why do modern organizations build IT-enabled Information Systems?
 - A. To increase efficiency
 - B. To improve effectiveness
 - C. To comply with external requirements, such as regulations
 - D. All of the above**
 - E. Only A and B

Correct answer: D (Pg **????**)

2. In class, we have defined Information Systems as socio-technical systems made up of four components. Such components are:
 - A. Technology, Process, Structure, People**
 - B. Strategy, Culture, Information, Procedure
 - C. Input, Processing, Output, Feedback
 - D. Operators, Computers, Information, Feedback
 - E. Both A and B

Correct answer: A (Pg **????**)

3. The following is an example of an *informal* Information Systems
 - A. Facebook**
 - B. Your university's bursar system
 - C. Amazon.com's billing system
 - D. Wal-Mart's inventory system
 - E. The Internal Revenue Service income tax processing system

Correct answer: A (Pg **????**)

4. When discussing the fact that Information Systems exist in context, which of the following **is not** part of the organizational context of an Information System?
 - A. Firm's strategy
 - B. Firm's IT infrastructure
 - C. Firm's culture
 - D. Firm's external environment**
 - E. Firm's organizational structure

Correct answer: D (Pg **????**)

5. First order change is the easiest to manage because:
- A. Employees are typically trained when it occurs
 - B. Employees are typically on board and committed to it
 - C. The introduction on an IT innovation only impacts people
 - D. The introduction on an IT innovation only impacts structure
 - E. **The introduction on an IT innovation only impacts process**

Correct answer: E (Pg ????)

6. Why do managers need to consider the context in which the organization is embedded when making an information systems decision?
- A. A genuine understanding of the people involved, their skills, interests, and motivations is necessary when designing and implementing a new information systems.
 - B. **Every organization is unique and the type of information systems the firm needs depends on its unique characteristics**
 - C. The user resistance, incentive systems, and relationships within the information systems are crucial to information systems success
 - D. So that managers can stay abreast of current developments
 - E. To identify best practices so that all companies in a given industry can work to become more identical to each other.

Correct answer: B (Pg ????)

7. The information systems and organizational changes which heavily involve the people, process, and technology components of the information systems is called:
- A. Robotics
 - B. First-order change
 - C. **Second-order change**
 - D. Third-order change
 - E. Fourth-order change

Correct answer: C (Pg ????)

8. Which of the following is NOT defined as relating to Information Technology?
- A. Servers (webservers, file servers, etc.)
 - B. User equipment (PCs, cell phones, etc.)
 - C. Telecommunication equipment (Routers, Switches, cables, etc.)
 - D. **People (Users, Managers, etc.)**
 - E. Software (Windows, Microsoft Office, etc.)

Correct answer: D (Pg ????)

9. Which of the following is NOT one of the components of Information Systems?
- A. The collection of beliefs, expectations and values shared by the members of an organization**
 - B. The individuals or groups directly involved
 - C. The organizational design, reporting, and relationships
 - D. Both processing and telecommunications equipment
 - E. Software used to manage data, information, and decision making.

Correct answer: A (Pg ????)

10. “Systemic effects” refers to:
- A. The interdependence of the four components of information systems**
 - B. The achievement of the goals of information systems
 - C. The effects of external environment on information systems implementation
 - D. The effects of firm strategy on information systems success
 - E. The effects of business output on business input

Correct answer: A (Pg ????)

11. The information systems and organizational change which heavily involves all four components of the information systems is considered as:
- A. Automation
 - B. First-order change
 - C. Second-order change
 - D. Third-order change**
 - E. Fourth-order change

Correct answer: D (Pg ????)

12. We have defined Information Systems (IS) as socio-technical systems. What does the term “socio-technical” mean in this definition?
- A. That an IS is designed and built by people
 - B. That an IS is enabled by IT
 - C. That an IS has two subsystems, a social and technical one**
 - D. That an IS is generally built for the greater good of society
 - E. That an IS requires that users be technically trained.

Correct answer: C (Pg **????**)

13. A business process is:
- A. The series of steps that a firm performs in order to complete an economic activity**
 - B. The procedure manuals typically used in large organizations to train new hires
 - C. The firm’s culture and its manifestations
 - D. A methodology for streamlining business operations so as to achieve substantial performance improvements
 - E. The way that information is handled within the company.

Correct answer: A (Pg **????**)

14. IT includes which of the following?
- A. Recorded data
 - B. Software**
 - C. An organization’s structure
 - D. Users
 - E. Paper and pencil

Correct answer: B (Pg **????**)

15. When designing an information system you must optimize the IS as a whole, not each individual component. This is because the components of an IS interact with one another. We have termed this phenomenon:
- A. Systemic effects**
 - B. Component interrelationship
 - C. The architecture of the IS
 - D. Mutual component dependency
 - E. Enabler effects

Correct answer: A (Pg **????**)

16. A socio-technical system has the following fundamental components:
- A. Social Groups, Hardware, Software, and Technical Environment
 - B. IT, Governance, Environment, and People
 - C. Process, People, IT, and Structure**
 - D. IT, People, and Process
 - E. IT, Process, and Social Groups

Correct answer: C (Pg ????)

17. Various levels of organizational change can be brought about by the introduction of new IT. They include:
- A. Intermediate
 - B. Integrate
 - C. Input
 - D. Interface
 - E. Transform

Correct answer: B (Pg ????)

18. First-order change includes the following components:
- A. Social Groups, Hardware, Software, and Technical Environment
 - B. IT, Governance, Environment, and People
 - C. Process, People, IT, and Structure
 - D. IT and Process**
 - E. IT, Process, Social Groups, Business Process

Correct answer: D (Pg ????)

19. Which of the following is not part of the organizational context of an Information System?
- A. Firm strategy
 - B. Process**
 - C. Firm culture
 - D. External environment
 - E. Legal issues

Correct answer: B (Pg ????)

20. An Information System consists of the following components: IT, Process, _____, and Structure; these four components are then grouped into two subsystems; technical and _____.
- A. External environment, philosophical
 - B. People, organizational context
 - C. People, social**
 - D. Managers, strategy
 - E. Data, informational

Correct answer: C (Pg ????)

21. Which of these definitions best describes hardware?
- A. A series of statements or instructions to the computer
 - B. The contents of a computer's memory
 - C. The physical components of your computer system.**
 - D. Network routing tables
 - E. Software loaded on a computer's hard drive.

Correct answer: C (Pg ????)

22. The term interface is used to represent:
- A. The source code for a software application.
 - B. The part of a software application that a user interacts with.**
 - C. The information processing logic of a software application.
 - D. The separation between the software and the user.
 - E. The environment that a computer operates in.

Correct answer: B (Pg ????)

23. A third-order change includes which of the following components:
- A. Process and IT
 - B. IT, Structure, and People
 - C. Process, People, IT, and Structure**
 - D. IT, People, Process, and Environment
 - E. IT and People

Correct answer: C (Pg ????)

TRUE/FALSE QUESTIONS

24. When second order change occurs, only the manner in which the process is performed changes, making it relatively easy to envision, justify, and manage.

Answer: False (Pg ????)

25. IT and IS are exactly the same concepts.

Answer: False (Pg ????)

26. Networking Devices are IT components.

Answer: True (Pg ????)

27. There is only one way to correctly perform a business activity.

Answer: False (Pg ????)

28. The organizational structure component includes the organization's culture.

Answer: True (Pg ????)

29. The unintended effects of IT are always negative and should be minimized.

Answer: False (Pg ????)

30. The external environment should not be included in the design of IS.

Answer: False (Pg ????)

31. Among the positive effects of an information system we can include employee empowerment and the widening scope of their responsibility.

Answer: True (Pg ????)

32. Software is an opinion about how data are represented, organized, and manipulated

Answer: True (Pg ????)

33. The external environment is one of the four fundamental components of IS.

Answer: False (Pg ????)

SHORT ANSWER QUESTIONS

34. What is an Information System and what are some examples?

Answer: Formal, sociotechnical, organizational systems designed to collect, process, store, and distribute information. Examples include Facebook, Second Life, etc.

35. Provide some examples of informal Information Systems

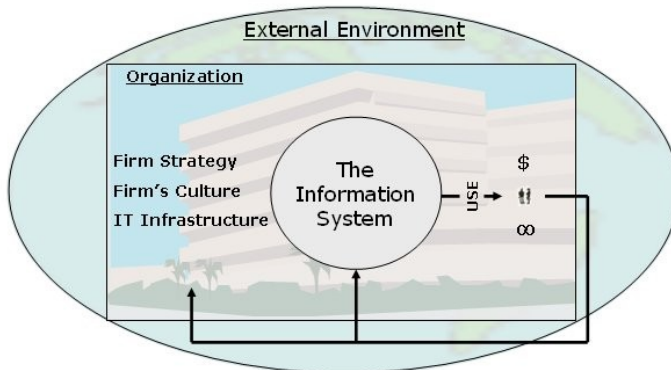
Answer: Facebook, Second Life, MySpace, etc.

36. Why is the people component a necessary part of an IS?

Answer: People will be actually using the IT component of the IS once it is implemented. For this reason, a genuine understanding of the people involved, their skills, interests, and motivations is necessary when designing and implementing a new IS, or when troubleshooting an existing one that is not performing as expected.

37. Produce the “Information Systems in Organizational Context” model. Why is the Feedback Loop important to this model?

Answer:



The feedback loops represented by the solid line reminds us that whatever outcomes are produced by the information system, positive or negative, will affect organizational characteristics and future information systems decision making. This model is important for you as a general or functional manager because it draws to your attention all of the external influence that will aid or undermine information system success.

38. Why do organizations build Information Systems?

Answer: Information systems are used by organizations to improve both organizational efficiency and effectiveness, and to comply with laws and regulations.

39. What is required for the successful design and implantation of an Information System?

Answer: The recognition that any new Information System is (or should be) tailored to the unique characteristics of the implementing organization and its context.

40. What are some key implications that stem from the notion of systemic effects and the fact that Information Systems exist in an organizational context?

Answer: IT should never be the start of an Information Systems design process. Changes to one component of the IS will eventually produce effects on all of the other components. Constant reevaluation of IS goals and processing is necessary over time

41. Why is constant re-evaluation of Information Systems necessary?

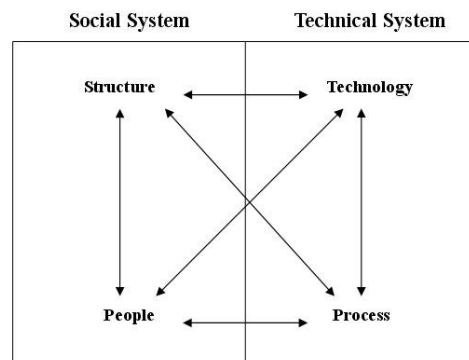
Answer: The design and use of an IS should be seen as an iterative process involving the cyclical evaluation of individual IS components and the assessment of how different organizational systems work together to support the business. The synergy between IS components, as well as between discrete organizational IS, can be maintained over time only if there is a willingness to modify aspects of this IS configuration as needed. Additionally, any time a change occurs the current IS design must be re-evaluated and the system must be once again optimized.

42. Define “information systems” and provide an example of formal information system.

Answer: Information Systems are formal, socio-technical, organizational systems designed to collect, process, store, and distribute information. Wal-Mart’s inventory replenishment system is a formal information system and Facebook is an informal information system.

43. Please draw the socio-technical system diagram to show the components of information systems and the interaction among the components, and define a “third-order” information systems and organizational change?

Answer: A third-order change is the change involves technology, structure, people and process. It starts with the interaction between structure and technology when there is a change in the way the organization selects, uses and manages technology. The interaction between the organizational structure and the people results in a change in the reporting and authority structure of the organization. The interaction between the organizational structure and process results in a new set of tasks or a new way to complete the tasks.



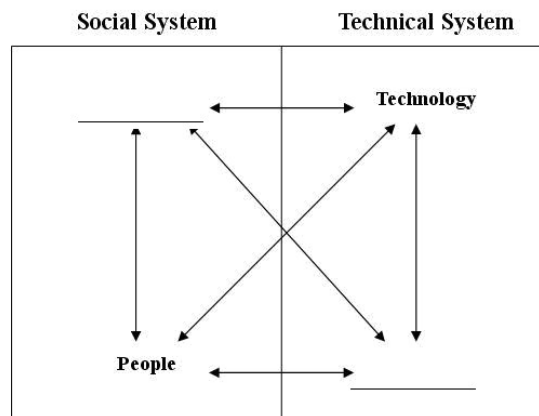
44. Define “information systems” and provide an example of an informal information system

Answer: Information Systems are formal, socio-technical, organizational systems designed to collect, process, store, and distribute information. Facebook and MySpace are informal information systems.

45. We have used the model below to aid in the analysis of information systems and how they interact with each other. Please fill in the missing components and describe all four components of an information system.

Answer:

- A. Technology: Hardware, software and telecommunication equipment
- B. Process: The series of steps necessary to complete a business activity
- C. People: The individuals or groups directly involved in information system
- D. Structure: The organizational design, reporting and relationships within the information system



46. Briefly define the notion of Systemic Effects and provide an example to illustrate your definition.

Answer: Systemic effects represent the fact that the components of an Information System are interdependent and change in any one of them will affect all other. An example of systemic effects is the introduction of check-in kiosks at airline check-in counters. When a kiosk is introduced (IT), the guest becomes an integral part of the Information System (people) and the agents have to start “training” the guests to use them (process). Moreover, the introduction of kiosks must be carefully handled as not to alienate the agents who may perceive the kiosk as “automating their job” away (structure).

47. Imagine the following scenario: You manage a table restaurant in your town. You have been asked to implement wireless table ordering using portable wireless (e.g., palm) devices. This is clearly a situation where you need to design an Information System. Use the framework we have introduced in class to identify the most important components that will make up such Information System (be specific to the example of the restaurant). Note, you are asked to list the components you will need, not to troubleshoot this implementation effort

Answer: The critical aspect of this answer was to be able to show that you can apply the appropriate theoretical framework to a “real” problem. Thus, you need not discuss the framework itself, but use it to make decisions. In this case, you would chose a restaurant, any restaurant, and identify the actual components of the IS you have been tasked to implement. In this type of question, you should strive to be precise and, using the given context, identify what specific components are needed to fulfill the information processing requirements of the wireless ordering system. For example:

<u>Structure</u> • Incentive system: How is the speed of service, mix of tables, and tips going to change (if at all) with the new system • Incentive system: How will the system impact how friendly or high quality the interaction is with guests (and therefore tips) – note here it may improve or deteriorate • Reporting system: Introduction of power users who can support wait staff on the floor	<u>IT</u> • Palm devices • Kitchen printers • Wireless network • POS software • Central server
<u>People</u> • Wait staff • Floor managers • Kitchen staff • Potentially new staff to maintain the system Note: Guests are not part of this IS, rather they are client of it. They would be part of the people component if it we were using a self-ordering device	<u>Process</u> • Ordering process (instead of walking to POS device beams orders; or instead of using paper pad and pen, the device is used) • Ongoing training process for new staff • Back up procedures to revert to manual system in case of IT failure (not necessarily a new process if they use a POS already)

ESSAY QUESTIONS

1. Explain why it is necessary for managers to be aware of the four components of an information system. Include discussion regarding what the four components are, along with examples.

Answers will vary. (Pg ????)

2. Explain why it is necessary for managers to be mindful of both organizational and national culture differences when making decisions regarding information systems. Provide examples to support your statements.

Answers will vary. (Pg ????)