

Computer & Information Systems (22:198:604)
Fall 2008

HW1 Solutions

Chapter 1

1. *Why do business professionals need to be involved with the development of information systems?*

Information systems exist to help people who work in a business to achieve the goals and objectives of the business. It is imperative that the people who know and understand the business and its goals and objectives be involved with the development of the information systems that will help to achieve those goals. Information Systems specialists alone will not have the deep and thorough understanding of the business that is required to correctly assess and prioritize the business need for information systems.

2. *Explain some of the roles business professionals need to play in the use of information systems.*

Business professionals will need to know how to employ various systems and software tools to accomplish their professional goals. They will need to take specific actions to protect systems and data (provide and ensure security). Business professionals will need to take responsibility for backing up data. In addition, in the event of a system failure, business professionals will need to contribute to recover efforts.

3. *List three characteristics you need to have to be an effective business professional in the twenty-first century.*

- Have sufficient MIS knowledge to be an informed and effective consumer of information technology products and services.
- Understand why ISs are necessary; what the basic technologies are; and how ISs are developed and managed.
- Know how to find out about new technology.
- Integrate MIS knowledge so that it becomes a part of your business thinking and processes, not merely memorized for a test and then forgotten.

4. *Because IS technology changes so fast, what else do you need to learn about MIS?*

In an area that experiences rapid changes, such as information technology, one must have the ability to learn how to find out about new technology. The five-component model helps in the formulation of relevant questions regarding, for example, the hardware, software, data, procedure, and people requirements.

5. *Give four different definitions of information.*

- Information is knowledge derived from data, where data is defined as recorded facts or figures.
- Information is data presented in a meaningful context.
- Information is data that has been processed in some way (summed, ordered, averaged, grouped, compared, or other similar operations).
- Information is a difference that makes a difference.

6. *Consider costs of a system in light of the five components: costs to buy and maintain the hardware; costs to develop or acquire licenses to the software programs and costs to maintain them; costs to design databases and fill them with data; costs of developing procedures and keeping them current; and finally, human costs both to develop and use the system.*

a. *Over the lifetime of a system, many experts believe that the single most expensive component is people. Does this belief seem logical to you? Explain why you agree or disagree.*

It is likely that this belief is true. An information system is only as good as the people who have developed it and who make use of it to perform their business functions more effectively and efficiently. It is very costly to hire and retain qualified, creative, and motivated people. Without those people, however, even the most technically sophisticated system will be of little value to the organization.

b. *Consider a poorly developed system that does not meet its defined requirements. The needs of the business do not go away, but they do not conform themselves to the characteristics of the poorly built system. Therefore, something must give. Which component picks up the slack when the hardware and software programs do not work correctly? What does this say about the cost of a poorly designed system? Consider both direct money costs as well as intangible personnel costs.*

If a system does not meet its requirements, the people and procedures will have to adjust and “pick up the slack.” People will have to change their behaviors to work with the system. This may result in reduced productivity at a minimum. In addition, annoyance and frustration may build to the point where people actually avoid the system in some fashion...they may find a way not to use the system at all (thus defeating its purpose); they may avoid using it by increasing absenteeism; or they may find another job.

c. *What implications do you, as a future business manager, take from questions (a) and (b)? What does this say about the need for your involvement in requirements and other aspects of systems development? Who eventually will pay the costs of a poorly developed system? Against which budget will those costs accrue?*

It is hoped that students will appreciate how important it is that the business professionals play an active role in systems development. Requirements not only

must be delineated for the system, but business managers (who are paying the bills) must ensure that the requirements are being fulfilled in the new system. If they are not fulfilled, the business unit not only will have wasted the development costs; it will experience ongoing costs of decreased productivity and possibly higher staff turnover.

Chapter 2

1. *Name three purposes for information systems in organizations.*
 - To gain a competitive advantage
 - To solve problems
 - To assist in decision making
2. *Identify the three levels of decision making defined in this chapter.*
 - Operational decisions focus on day-to-day operational tasks.
 - Managerial decisions focus on allocation and use of resources.
 - Strategic decisions focus on broad issues concerned with organizational direction, goals, and objectives.
3. *List the five steps of the decision-making process and describe the types of information systems useful for each.*
 - Intelligence gathering—Applications that support communication and data acquisition and analysis are most useful.
 - Alternative formulation—Applications that support communication are most useful here.
 - Choice—Applications that support model building and analysis are most useful here.
 - Implementation—Applications that support communication are most useful here.
 - Review—Almost every type of application will be useful in monitoring the performance of the implemented choice.
4. *Singing Valley Resort is a top-end (rooms go from \$400 to \$2,500 per night), 50-unit resort located high in the mountains of Colorado. Singing Valley prides itself on its beautiful location, its relaxing setting, and its superb service. The resort's restaurant is highly regarded and has an extensive list of exceptional wines. The well-heeled clientele are accustomed to the highest levels of service.*
 - a. *Explain how the principles of competitive advantage in Figure 2-1 pertain to Singing Valley.*

- ◆ Products—Singing Valley’s location enables it to provide a unique product. However, to attract customers, Singing Valley needs to enhance its product with extensive service offerings and with excellent food and wine. Unique cuisine offered by exclusive chefs helps to differentiate Singing Valley from other luxury resort options.
- ◆ Barriers—Cultivating a close personal relationship with customers will help encourage repeat business. In addition, carefully tailoring each customer’s stay at the resort to match his/her personal preferences will encourage loyalty and repeat visits. Establishing a good network of wine and food suppliers will help provide unique offerings in the dining room.
- ◆ Costs—Singing Valley could form alliances with local businesses to provide unique recreational offerings to its clients (skiing packages, hiking packages, white water rafting, hang gliding, mountain flying, etc.).

b. *Describe how an information system could be used to achieve or help to achieve three of the principles of competitive advantage in your answer to part a.*

An information system would be very useful in recording each customer’s personal preferences (food, wine, recreational choices, etc.) so that when the customer returns, his/her stay can be tailored to meet those preferences. This system could also keep track of various personal characteristics (profession, children, grandchildren, etc.) so that staff can treat the client as an old friend. An information system could help communicate with food and wine suppliers. A Web site could provide information and links to partner businesses providing recreational options for Singing Valley’s guests.

c. *Suppose Singing Valley says that it has a problem keeping track of its customers and their needs. This statement is vague and could mean many different things. To demonstrate this to Singing Valley, write two different, but possible, problem definitions that one could infer from the words "a problem keeping track of its customers and their needs."*

One interpretation of the problem statement is that Singing Valley is unable to keep track of its current guests and their plans during their stay at Singing Valley. This implies that dining room reservations, services in the spa, etc. are not kept track of effectively.

Another interpretation of the problem statement is that Singing Valley is unable to recall a guest’s personal preferences on return visits to Singing Valley. This implies that Singing Valley cannot keep track of the fact that, for example, a particular guest is a vegetarian, prefers dry white wine, and enjoys mountain trekking.

d. *Give an example of:*

i. *An operational decision that Singing Valley makes.*

An operational decision would be ordering the food for the day's menu offerings in the dining room.

ii. A managerial decision that Singing Valley makes.

A managerial decision would be determining how many additional temporary serving and housekeeping staff to hire for the Christmas holiday season.

iii. A strategic decision that Singing Valley makes.

A strategic decision would be determining if Singing Valley should open a new resort on some available property in Idaho.

e. Give three examples of information systems that Singing Valley could use to make the decisions in part d.

A meal planning information system could be used to calculate food requirements given the menu choices and the number of guests registered at the resort.

A staffing system could help determine the need for additional temporary staff based on projected guest registrations at the resort for the holiday season.

A spreadsheet or financial modeling tool could help prepare and analyze financial projections for a new resort. Email surveys could help assess customer interest and preferences in a new resort.