Tutorial 9
Systems Development
Suggested Solutions

Objectives:

- **Discuss some of the tools and techniques used in systems analysis**
- **Discuss the merits and challenges associated with IT insourcing**
- **Discuss the critical issues involved in IT applications development approaches**
- **Discuss the buy and lease approach for IT applications**

1. What is the purpose of systems analysis? Identify the major steps of this phase.

   After a project has completed the investigation phase and been approved for further study, the next step is to answer the question, "What must the information system do to solve the problem?" The overall emphasis of analysis is gathering data on the existing system, determining the requirements for the new system, considering alternatives within identified constraints, and investigating the feasibility of alternative solutions.

   The steps in the systems analysis phase are:
   - Identify and recruit team leader and team members
   - Develop budget and schedule for systems analysis activities
   - Study existing system
   - Develop prioritized set of requirements
   - Identify and evaluate alternative solutions
   - Perform feasibility analysis
   - Prepare draft of systems analysis report
   - Review results of systems analysis with steering team

2. What is the Pareto principle and how does it apply to defining system requirements?

   The Pareto principle (also known as the 80–20 rule) is a rule of thumb used in business that helps people focus on the vital 20 percent that generate 80 percent of the results. This principle means that implementing 20 percent of the system requirements can achieve 80 percent of the desired system benefits. An 80–20 option will have a low cost and quick completion schedule relative to other potential options. However, this option may not be an ideal solution and may not even be acceptable to the users, stakeholders, and the steering team who may be expecting more. Additional candidate solutions can be defined that implement all or most of the critical priority system requirements and team-selected subsets of the medium and low-priority requirements.

3. Why is it important for business managers to have a basic understanding of the systems development process?

Student responses will vary. In today's businesses, managers and employees in all functional areas work together and use business information systems. As a result, they are expected to help and even lead systems development teams and should have, at least, a basic understanding of the systems development process.

4. Your company wants to develop or acquire a new customer relationship management system to help sales representatives identify potential new customers. Describe what factors you would consider in deciding whether to develop the application in-house or buy a software package to fulfill this need.

Factors to be considered include:

Factor	Develop (make)	Off-the-Shelf (Buy)
Cost	The cost to build the system can be difficult to estimate accurately and is frequently higher than off-the-shelf	The true cost to implement an off-the-shelf solution is also difficult to estimate accurately but is likely to be less than a custom software solution
Needs	Custom software is more likely to satisfy your needs	Might not get exactly what you need
Process improvement	Tend to automate existing business processes even if they are poor	Adoption of a package may simplify or streamline a poor existing business process
Quality	Quality can vary depending on the development team	Can assess the quality before buying
Speed	Can take years to develop	Can acquire it now
Staffing and support	Requires in-house skilled resources to build and support a custom-built solution	Requires paying the vendor for support
Competitive advantage	Can develop a competitive advantage with good software	Other organizations can have the same software and same advantage

5. You are the Chief Information Officer for a medium sized retail store and would like to develop a web site to allow your loyal customers to see and buy your products on the Internet. Describe how you would determine the requirements for the new system.

During the systems analysis phase, study the existing systems and work processes to identify strengths, weaknesses, and opportunities for improvement. You should attempt to answer the question: "What must the information system do to solve the problem?"