# Chapter 2: Analyzing the Business Case

**Chapter 2 – Analyzing the Business Case**: Chapter 2 explains how systems projects get started and how to evaluate a project proposal to determine its feasibility.

### Questions

1. How does strategic planning influence day-to-day business operations? Why is it important for systems analysts to understand a company’s strategic plan?

*Strategic planning identifies long-term organizational goals, strategies, and resources that serve as a framework for day-to-day operations. Because information technology is essential, IT managers, and systems analysts, must understand and participate in strategic planning. The case of the two stonecutters is a good example – all you have to do is substitute systems analysts for stonecutters and change the cathedral to a major IT-related project.*

1. What is a SWOT analysis? Prepare a SWOT analysis of your school or your employer.

*During strategic planning, top managers ask a series of questions that is called a SWOT analysis because it examines a company’s strengths (S), weaknesses (W), opportunities (O), and threats (T). Each question leads to an IT-related issue, which in turn requires more review, analysis, and planning.*

1. What is an effective way to assess user requests for additional features and functions?

*The most common approach is to use a systems review committee to evaluate user requests. With a broader viewpoint, a committee can establish priorities more effectively than an individual, and one person’s bias is less likely to affect a committee’s decisions. On the other hand, action on requests must wait until the committee meets. To avoid delay, committee members use memos, e-mail, and teleconferencing to communicate with each other. Another potential disadvantage of a committee is that members could favor projects requested by their own departments, and internal political differences can delay important decision.*

1. What are four types of feasibility? Which type focuses on total cost of ownership? Which type is influenced primarily by users?

*A systems project must be feasible from an operational, technical, economic, and schedule standpoint. Operational feasibility means that a proposed system will be used effectively after it has been developed. If users have difficulty with a new system, it will not produce the expected benefits. Technical feasibility refers to the technical resources needed to develop, purchase, install, or operate the system. Economic feasibility means that the projected benefits of the proposed system outweigh the estimated costs and usually consider the total cost of ownership (TCO), which includes ongoing support and maintenance costs, as well as acquisition costs. Economic feasibility focuses on total cost of ownership. Operational feasibility is influenced primarily by users, and how the proposed system will support them.*

1. Describe the six steps in a typical preliminary investigation. Why should an analyst be careful when using the word *problem*?

*The steps are described in detail, starting with Figure 2-12. When interacting with users, analysts should be careful in using the word “problem,” because it has a negative meaning. When you ask users about problems, some will stress current system limitations rather than desirable new features or enhancements. Instead of focusing on difficulties, an analyst should question users about additional capability they would like to have.*

1. What is project scope? What are constraints? Provide an example of a mandatory, external, future constraint. Also provide an example of a discretionary, internal, present constraint.

*A project’s scope defines the boundaries, or extent, of the project as specifically as possible. For example, the statement, “Payroll is not being produced accurately” is too general, compared with the statement, “Overtime pay is not being calculated correctly for production workers on the second shift at the Yorktown plant.” Similarly, the statement, “The project scope is to modify the accounts receivable system” is not as specific as the statement, “The project scope is to allow customers to inquire online about account balances and recent transactions.”*

*A constraint, or requirement, is a condition that the system must satisfy or an outcome that the system must achieve. A constraint can involve hardware, software, time, policy, law, or cost. Constraints can be classified as present versus future, internal versus external, and mandatory versus desirable. Constraints are present or future depending on whether the constraint must be met as soon as the system is developed, or modified at some future time. Constraints are internal or external, depending on whether the constraint arises from within the organization or from an external force, such as a government regulation. Constraints are mandatory or desirable depending on whether the constraint is absolutely essential, or merely desirable.*

*An example of a mandatory, external, future constraint might be a government tax reporting requirement that goes into effect next year.*

*An example of a discretionary, internal, present constraint might be a management decision to begin work on a new system not, rather than waiting until year-end.*

1. Identify and briefly describe five common fact-finding methods.

*The methods are:*

* *Analyze organization charts. In many instances, an analyst will not know the organizational structure of departments involved in the study. He or she should obtain organization charts to understand the functions and identify people you want to interview. If organization charts are not available, or are out-of-date, you should obtain the necessary information from department personnel and construct your own chart. Even when charts are available, you should verify their accuracy.*
* *Conduct interviews. The primary method of obtaining information during the preliminary investigation is the interview. The chapter provides several hints and tips that can make interviews more effective.*
* *Review documentation. Although interviews are an extremely important method of obtaining information, you also might want to investigate the current system documentation. The documentation might not be up to date, so you should check with users to confirm that you are receiving accurate and complete information.*
* *Observe operations. Another fact-finding method is to observe the current system in operation. You might see how workers carry out typical tasks. You might choose to trace or follow the actual paths taken by input source documents or output data.*
* *Conduct a user survey. Interviews can be time consuming. Sometimes you can obtain information from a larger group by conducting a user survey. In this case, you design a form that users complete and return to you for tabulation.*
* *Other techniques. Several other fact-finding techniques, including sampling and research, are described in Chapter 4.*

1. What fact-finding methods are well-suited for complex technical issues? Which might be appropriate for the pursuit of new, cutting-edge features?

*In handling technical issues, an analyst should start by reviewing any and all documentation that is available, and ask these types of questions: Is it complete? Is it up-to-date? Do people know about it? Do they use it? Is it clear? The answers to these questions might transform what looked like a technical issue into a communications problem.*

*When dealing with new features, it is critical to investigate user needs and requirements. What look like an expensive add-on might be a bargain, if it will improve productivity and boost user satisfaction?*

1. What type of tool might a systems analyst use to identify a relationship between two variables? What tool is useful for identifying and prioritizing causes of problems?

*The XY chart, or scatter diagram, is a tool that can show correlation between two variables. For example, suppose you are getting complaints about network response time, and you want to determine the cause. You would try to identify variables, such as the number of users, to look for a correlation or pattern.*

*A Pareto chart is a widely used tool for identifying and prioritizing causes of problems. Named for a nineteenth century economist, a Pareto chart is drawn as a vertical bar graph, as shown in Figure 2-17. The bars, which represent various causes of a problem, are arranged in descending order, so the team can focus on the most important causes.*

1. What is a fishbone diagram, and why would you use one? Think of a problem you have experienced at school or work, and draw a sample fishbone diagram with at least two levels.

*A fishbone diagram is an analysis tool that represents the possible causes of a problem as a graphical outline. When using a fishbone diagram, an analyst first states the problem and draws a main bone with sub-bones that represent possible causes of the problem. In the example shown in Figure 2-14, the problem is unhappy workers, and the analyst has identified four areas to investigate: environment, workers, management, and machines. In each area, the analyst identifies possible causes and draws them as horizontal sub-bones. For example,* ***too hot*** *is a possible cause in the environment bone. For each cause, the analyst must dig deeper and ask the question: What could be causing this symptom to occur? For example,* ***why*** *is it too hot?*

### Discussion Topics

1. Suppose that the vice president of marketing asks you to write a program to create labels for a onetime advertising promotion. As IT manager, you know that the labels can be prepared more efficiently by exporting the data to a word processing program and using a mail merge feature. How would you handle this situation?

*If the company has a systems review committee, then the committee would review all systems requests, including this one. As IT manager, you probably are a member of that committee. If you can demonstrate to the committee that the systems request is impractical, then it would be rejected. The rejected systems request would then be returned to the vice president of marketing along with the committee's reasons for rejection.*

*If the organization does not use a systems review committee, then as IT manager you probably have the authority to accept or reject projects. If you decide that this particular systems request is impractical, then return the request along with the reasons for rejection. So, in this case too, it is your responsibility to demonstrate that this systems request is not practical.*

*If a project truly is impractical, then time and cost estimates should reveal that. In this situation, prepare estimates of the costs to prepare the mailing labels on the computer by writing and using a computer program versus the cost of having a staff person prepare the labels using a word processor. If the systems request can be shown to be an inefficient use of the firm’s time and money, the vice president of marketing will agree that the project should not be done.*

1. The vice president of accounting says to you, the IT director, “This request procedure takes too long. My people know what they are doing and their systems requests are necessary and important.” She suggests that the IT department bypass the initial steps and immediately get to work on her requests. What would you say to her?

*You must answer two points in the vice president’s statement. The first point is that the accounting department requests should bypass the approval and priority-setting process. The second point is that the initial phases of the systems development life cycle are unnecessary.*

*To respond to the first point, you should point out that the purpose of the approval cycle is to recognize and reject those projects that are unnecessary or impractical. The approval cycle, therefore, poses no threat to worthy accounting department projects. Even more critical is the setting of priorities for the approved systems requests, all of which presumably are important and necessary. Most often, the total time necessary to complete approved systems requests exceeds the available information systems staff time. Information systems staff time is a scarce resource that must be managed wisely. Priority must be given those projects that are considered the most necessary and most valuable to the entire organization. Even one systems request bypassing the approval and priority-setting cycle could, therefore, harm the organization.*

*It is possible that the vice president of accounting complained because the organization's approval and priority-setting cycle takes too long, unnecessarily delaying the start of critical projects. You should check this out; perhaps these procedures could be streamlined and improved.*

*To answer the second point, you should explain a problem cannot be solved without first understanding it. The systems development life cycle was developed as a logical series of steps to respond to feasible systems requests. Unnecessarily bypassing any one step could result in an inferior solution to the systems request.*

1. One of your coworkers says, “Mission statements are nice, but they really don’t change things down here where the work gets done.” How would you reply?

*Remind students of the famous story of the airline pilot who informed the passengers that there was bad news and good news. The bad news was that they were lost, but the good news was that they were making great time. The obvious point is that without a long-term mission, an organization cannot establish goals, objectives, and milestones. The real challenge for a company is to motivate employees to feel that they are contributing directly and significantly to the organization’s success.*

1. Would you continue to work for a company if you disagreed with the firm’s mission statement? Why or why not?

*This discussion topic is intended to stimulate a discussion of corporate politics and professional ethics. Obviously, more information would be needed. But pose some examples, such as “Suppose the company president wanted to make a long-term commitment to a technology that you believed was weak and likely to be superseded in a few years. How far would you be willing to go in voicing your opposition, and what factors would influence your answer?”*

5. If an organization currently lacks the skills necessary to make a project technically feasible, how would you rectify the situation?

*Skills can be acquired in several ways. Personnel can be trained. New employees can be brought into the company. Consultants and contractors can be hired. Parts of the project can be outsourced.*

### Projects

1. Use the Internet to find two examples of corporate mission statements.

*Students should have no trouble locating numerous examples of mission statements. Perhaps the easiest method would be to search on the phrase “mission statement.” You also might encourage students to share the mission statement of the company for which they work, and analyze the mission statement of your school or organization, if it has one.*

1. Many articles have been written on how to develop, understand, and evaluate a business case. Visit the Web sites for *TechRepublic, CIO*, or another IT magazine, and find an article that discusses business cases. Describe the article and what you learned from it.

*Answers will vary. Students should easily locate more than enough sources to come up with a good understanding of what a business case is, and why it is important.*

1. Suppose you own a travel agency in a large city. You have many corporate clients, but growth has slowed somewhat. Some long-term employees are getting discouraged, but you feel that there might be a way to make technology work in your favor. Use your imagination and suggest at least one strength, weakness, opportunity, and threat that your business faces.

*Students should have no trouble identifying the weaknesses and threats to this troubled industry. Opportunities and strengths might be a bit more difficult.*

*Travel agencies have been battered by the airlines’ profit squeeze, and a traveling public that travels less and looks for discounts every step of the way. Nonetheless, innovative travel firms can and do come up with ways to survive and even grow in niche markets.*

*Encourage students to think of ways that information technology could be a potent weapon for a small firm. For example, some travel agencies are offering “name-your-price” options that depart from the traditional commission-based concept. Vacation.com is an industry group that offers member travel agents various IT tools and solutions designed to strengthen their competitive ability*.

1. Write a mission statement and three goals for the travel agency described in Project 3.

*Answers will vary, depending on the strengths, weaknesses, opportunities, and threats identified in the previous question. Encourage students to use some of the screen shots in the chapter and the SCR case as models for the mission statement and goals*.

5. Identify a situation where one of the external factors (as shown in Figure 2-6) that affected a system project was a natural disaster.

*Imagine a hurricane hitting the east coast of Florida. If the project was situated on Florida’s west coast, which was unaffected by the hurricane, the project could still be negatively impacted. For example, one or more of the project’s external suppliers could be offline due to a lack of electricity or fuel. If the supplier can’t operate properly, the entire project could be jeopardized.*