CHAPTER FIVE

Solving Users' Problems

Systems Analysts at Work

Who are systems analysts? They are the key people around whom the computer systems of banks, insurance companies, consulting firms, financial services, manufacturers, government agencies, and computer companies revolve. They perform three different functions in their jobs. First of all, systems analysts are people-persons who work with users to find out what information the users expect the computer to generate. Systems analysts are also investigators who gather facts about existing systems and then analyze them to determine the effectiveness of current processing methods and procedures. This phase may also include preparing a cost-benefit analysis of the current system. Finally, they are architects who plan and design new systems, recommend changes to existing systems, and participate in implementing these changes. Being able to handle the three distinctly different roles of a systems analyst requires certain characteristics. If becoming a systems analyst interests you, take this quiz to see if you have most of the requisite traits.

- Are you self-motivated and creative?
- Can you work equally well with technical personnel and those with little or no computer background?
- Are you tenacious—able to stick with a problem until it is solved?
- Can you handle a number of tasks simultaneously?

- Do you have the ability to concentrate and pay close attention to detail?
- Are you able to think logically?
- Can you deal effectively with difficult people?
- Are you a team player?
- Are you a good listener?
- Are you interested in a wide range of subjects?
- Can you communicate effectively both orally and in writing?
- Do you possess the ability to coordinate activities among many levels in an organization?
- Do you have good organization skills?
- Do you have a broad knowledge of computer systems?
- Are you familiar with programming languages?
- Are you a college graduate?
- Do you have an analytical mind?
- Are you self-disciplined and self-directed?
- Are you able to work for long periods even if there are few tangible results?
- Do you enjoy attending meetings?
- Are you willing to write numerous reports—even when there has been little accomplishment?
- Can you manage time and resources effectively?

If you answered "yes" to most of these questions, you probably possess the personal qualities and skills to become a successful systems analyst. Your work will be with computer systems, which are

made up of people, machines, programs, and procedures all organized to accomplish a certain task. Organizations have systems because a system is an orderly way to get things done. For example, colleges have systems to register students in the classes they want. These systems have such components as registration forms filled in by the students, lists of available classes, registration personnel, and computer programs.

How Systems Analysts Work

Whether your task as a systems analyst is to create a brand-new registration procedure for a college or to improve the system for regulating the air temperature inside the space shuttle, your project will usually have six phases. How many systems analysts will be involved in developing and implementing a new system and what their individual roles will be naturally depend on the complexity of the system as well as the analysts' expertise.

The preliminary investigation is simply a brief study of the problem to find out if it warrants further investigation. The systems analyst primarily handles this phase through personal interviews with end users who have knowledge of the problem as well as the system being studied. This phase is usually quite brief. At its conclusion, systems analysts usually give management a report of just a few pages telling what they found and giving their recommendations.

The systems analysis phase involves gathering and analyzing data. Systems analysts gather data from interviews, written documents, questionnaires, and personal observations. This phase takes a lot of legwork and time and can be quite expensive. Once all the data have been gathered, it is time to analyze them using such tools as organization charts, data-flow diagrams, grid charts, data dictionaries, and decision logic tables. The final step is to make a report to management that details what problems were found, gives possible solutions, and recommends what the next step should be.

The systems design phase involves the planning and development of the systems operation. Systems analysts begin this phase by finding out exactly what information must be produced by the system (output). Once they know what the desired output is, they have to determine what is required to produce it (input), how the data will be stored, and how the system will operate to produce the desired information. An important part of this phase is to develop system controls to ensure the data are input, processed, and output correctly. This phase concludes with a detailed presentation of the system to management and users and, perhaps, with approval to begin developing the system.

The systems development phase begins with the scheduling of all the activities that have to be performed. Then design specifications have to be prepared for all the programming that will be done including the selection of the programming language. After the programs have been written, the next step involves testing to see if all the programs work together satisfactorily. Finally, documentation is required to describe the programs for operations personnel and users of the system.

The systems implementation and evaluation phase indicates that the system is ready to operate. Systems analysts must evaluate whether everything is working as planned. The reliability of the system must be tested and necessary modifications made. In addition, the changeover from the old system to the new involves training personnel.

The systems maintenance phase begins when the development process is concluded. Changes have to be made to correct errors, give the system additional capability, or react to new needs of the users.

Working as a Systems Analyst

It helps to have a little bit of Sherlock Holmes in you in order to be a successful systems analyst. You must investigate until you find