

# Lesson 8

## Project Management



### Key Terms

Gantt chart  
implementation  
PERT chart  
project management

### What You Will Learn to Do

- Use a Gantt chart to plan a project

### Linked Core Abilities

- Take responsibility for your actions and choices
- Apply critical thinking techniques

### Skills and Knowledge You Will Gain Along the Way

- Describe project management stages
- Identify the critical components needed for successful project management
- Explain how to use Gantt and PERT charts
- Define the key words contained in this lesson

## Introduction

Projects have definite beginnings and endings. That makes them somewhat different from ongoing work and requires special management skills. Your project team may be composed of people outside those you supervise; however, you will be responsible for supervising their work on the team. All the knowledge and skills you have learned thus far in your JROTC program will come to play when given the opportunity to become a project team leader.

This lesson helps you identify critical issues associated with project management stages, understand how to use appropriate tools in managing a project, and learn and practice a variety of techniques required to manage projects successfully.

## The Stages of Project Management

The four-stage model for **project management** includes the definition; planning; **implementation**, and follow-up stages.

In the definition stage, you organize the data, sort complex information, and clarify the goals in consideration of the organization's goals (see Figure 4.8.1). In the planning stage, you think ahead, seek expert advice, maintain objectivity, and identify subdivisions of the project.

In the implementation stage you monitor the performance, establish contingencies, and plan for prevention. Finally, the follow-up stage requires you evaluate the results and make recommendations.



### Key Note Terms

**project management** – the process of planning, organizing, staffing, directing, and controlling the production of a system

**implementation** – to give practical effect to and to ensure actual fulfillment by concrete measures

*Figure 4.8.1: Clarifying goals is just one part of the definition stage of project management.*

Courtesy of John Henley/Corbis Images.

## Tools for Project Management

It is important for you to set objectives and establish a basic strategy for achieving the objectives with regard to issues like time, cost, and so forth. It is also important for you to break the project down into subunits or steps once the extent of the project goals are determined. You will need to develop a *project schedule* and identify the *sequence* in which actions should take place.

### Gantt Chart

One way of displaying the time relationship of the steps in the project is by using a **Gantt chart** (see Figure 4.8.2). Henry Gantt, an industrial engineer, introduced this procedure in the early 1900s. The chart shows the flow of activities in sequence.

To create a Gantt chart you must list the steps required to complete the project and the estimated time for each step. The steps are listed down the left side with time intervals given along the bottom. When the chart is finished, one can see the minimum total time for the project, the sequence of steps, and the possible overlapping of steps. You will need to watch for overuse of resources.

### PERT Chart

Another useful tool in project management is the **PERT chart** (see Figure 4.8.3). PERT stands for Program Evaluation and Review Technique, and this planning method helps the project team to:

- Be mutually aware of the process and sub-goals
- Contribute to and share in the decision made about how, when, by whom activities are done
- Make more efficient use of resources by concentrating effort and time on critical tasks rather than devoting time to subtasks while tasks of greater priority lack available people

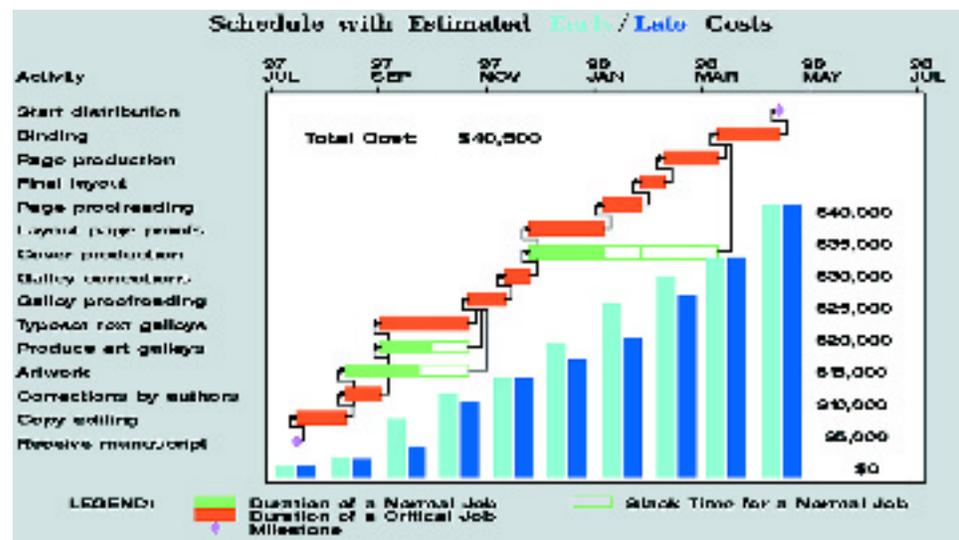
#### Key Note Terms

**Gantt chart** –the standard format for displaying a schedule graphically consisting of a horizontal bar chart with time as the horizontal axis and either resources, jobs, or orders as the vertical axis

**PERT chart** – a term used to refer to a network diagram, which is a graphical illustration of the relationship between project activities

Figure 4.8.2: A Gantt chart.

Courtesy of SAS Institute, Inc.



- **Reevaluate the project while it is underway**
- **Reallocate resources to cope with unexpected blocks to task accomplishment or to take advantage of unanticipated success in meeting some subgoal**

PERT is a group-analysis flow chart procedure that begins with *identifying the sequences of dependent activities*. You begin at the end, such as the following:

- **Before we can arrive at the picnic grounds, we must travel there in the car.**
- **Before we can travel in the car, we must fill up the gas and check the oil.**
- **Before we do that, we must have traveled to the service station.**
- **Before we can start out for the service station, we must have loaded all the supplies in the car except the ice, which we can get at the gas station.**

So we draw a network of activities, each of which ends in an event.

Another example of this is your getting up each morning to go to school. Suppose you need to be at school no later than 8 a.m. You would list all the events that need to take place from the time you wake up to the time you arrive and the length of time it takes you to do each event. You would then count back from 8 a.m. to determine what time you would need to set your alarm clock.

### Note

The Critical Path Method (CPM) is a variation of PERT.

Putting all this together is your responsibility as the project team leader. You will need a working knowledge of these tools, good communication skills, and skills for setting expectations. You must provide continual evaluation and follow-up using the appropriate leadership style. Your knowledge of how to lead a meeting will also come in hand here. As you can see, it is time to put it all together so you can lead your project team and manage the project.

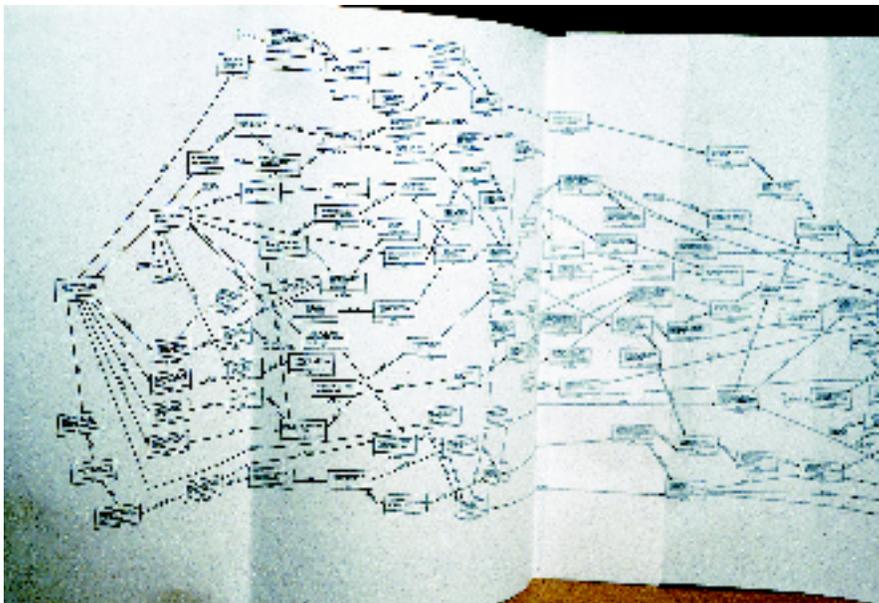


Figure 4.8.3: A PERT chart.  
Courtesy of Six Cats Research, Inc.

## Conclusion

In this lesson, you learned to identify critical issues associated with project management stages, understand how to use appropriate tools in managing a project, and learn and practice a variety of techniques required to manage projects successfully.

Next, you will learn about mentoring. Mentoring programs can help you explore new interests in helping others, further develop your personal skills, and stay excited about school.

## Lesson Review

1. What are the four stages of project management?
2. How can a Gantt chart assist in managing a project?
3. How is a PERT chart different than a Gantt chart?
4. Discuss how either of these management tools could have helped with your last project.