

PERT CHART

What it is:

A PERT chart is a graphic representation of a project's schedule, showing the sequence of tasks, which tasks can be performed simultaneously, and the critical path of tasks that must be completed on time in order for the project to meet its completion deadline. The chart can be constructed with a variety of attributes, such as earliest and latest start dates for each task, earliest and latest finish dates for each task, and slack time between tasks. A PERT chart can document an entire project or a key phase of a project. The chart allows a team to avoid unrealistic timetables and schedule expectations, to help identify and shorten tasks that are bottlenecks, and to focus attention on most critical tasks.

When to use it:

Because it is primarily a project-management tool, a PERT chart is most useful for planning and tracking entire projects or for scheduling and tracking the implementation phase of a planning or improvement effort.

How to use it:

Identify all tasks or project components. Make sure the team includes people with firsthand knowledge of the project so that during the brainstorming session all component tasks needed to complete the project are captured. Document the tasks on small note cards.

Identify the first task that must be completed. Place the appropriate card at the extreme left of the working surface.

Identify any other tasks that can be started simultaneously with task #1. Align these tasks either above or below task #1 on the working surface.

Identify the next task that must be completed. Select a task that must wait to begin until task #1 (or a task that starts simultaneously with task #1) is completed. Place the appropriate card to the right of the card showing the preceding task.

Identify any other tasks that can be started simultaneously with task #2. Align these tasks either above or below task #2 on the working surface.

Continue this process until all component tasks are sequenced.

Identify task durations. Using the knowledge of team members, reach a consensus on the most likely amount of time each task will require for completion. Duration time is usually considered to be elapsed time for the task, rather than actual number of hours/days spent doing the work. Document this duration time on the appropriate task cards.

Construct the PERT chart. Number each task, draw connecting arrows, and add task characteristics such as duration, anticipated start date, and anticipated end date.

Determine the critical path. The project's critical path includes those tasks that must be started or completed on time to avoid delays to the total project. Critical paths are typically displayed in red.

Note: Most commercially available project management software will routinely generate a PERT chart.

PERT Chart Example

