



## P-Glossary



### **Program evaluation review technique (PERT)/critical path method (CPM)**

The program evaluation review technique (PERT) and critical path method (CPM) are tools useful in planning, scheduling, and managing complex projects. PERT/CPM (sometimes referred to as network analysis) provides a focus around which managers and project planners can brainstorm. It is useful for evaluating the performance of individuals and teams. The key concept in CPM/PERT is that a small set of activities, which make up the longest path through the activity network, control the entire project. If these "critical" activities can be identified and assigned to the responsible persons, management resources can be optimally used by concentrating on the few activities that determine the fate of the entire project. Noncritical activities can be replanned or rescheduled, and resources for them can be reallocated flexibly, without affecting the whole project.

There are many variations of CPM/PERT which have been useful in planning costs and scheduling manpower and machine time. CPM/PERT can answer the following important questions: a) How long will the entire project take to be completed? What are the risks involved? b) Which are the critical activities or tasks in the project which could delay the entire project if they were not completed on time? c) Is the project on schedule, behind schedule, or ahead of schedule? d) If the project must be finished earlier than planned, what is the best way to do this at the least cost?

PERT/CPM can be used manually, but it is much easier to use project management software (e.g., RFFlow). Operational research and quantitative management books usually provide detailed descriptions of how to use these tools.