

Tutorial Notes

Class: B.Com (Hons.) Semester III (CC7)

Subject: Management Principles & application.

Topic: CPM meaning, advantages and disadvantages.CPM vs PERT

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### **Meaning of CPM**

Critical Path Method (CPM) developed in the 1950s is an algorithm needed for planning, arranging, scheduling, coordinating, and governing of a project. It is presumed that in this method the activity time is specified and fixed. It is used to calculate the quickest and latest start time for each task.

CPM helps to distinguish the critical and non-critical tasks, reduces the time and bypass the queue formation in the process. It is essential to identify critical activity because if any activity is hindered, it will clutter the whole process.

In this process, first, the list of all the activity is prepared, followed by the time required by each of these activities. Then the dependency connecting the activities is decided. Here, the series of the activity in a network is defined as 'path'.

### **Advantages of CPM**

- Provides an outline for long term coordination and planning of a project.
- Recognizes critical activities
- Easy to plan, schedule, and control project
- It improves productivity
- Manages the resource needed

### **Disadvantages of CPM**

- For beginners it's difficult to understand
- Software too expensive
- Sometimes, to structure CPM is too time-consuming
- It cannot control and form the schedule of a person involved in the project
- Allocation of resources cannot be monitored properly

## CPM in Project Management

The Critical Path Method in project management is a step-by-step technique used in the planning process that explains the critical and non-critical activities of a project. CPM goals are to check time-bound issues and process that causes blockage in the project. The CPM is preferably applicable to projects that involve various activities that are associated in a complex method.

Once CPM is applied, it will help you keep your projects on track.

- Help you recognize the action that needs to be performed on time so that the whole project is completed on time.
- Indicates which responsibilities can be delayed and for how long without affecting the overall project plan.
- Determine the least amount of time it will take to accomplish the project.
- Tell you the newest and latest time each activity can start on in order to manage the schedule.

The term of each action is listed above each joint in the diagram. For an individual path, insert the duration of each node to ascertain the total duration. The critical path is the one that has the longest duration.

### PERT vs CPM

Basis	PERT	CPM
Full Form	Full form of PERT- Program (Project) Evaluation and Review Technique	Full Form of CPM-Critical Path Method
Meaning	PERT is a technique, used to manage the uncertain task of a project.	CPM is a statistical technique used to manage the activities of a project.
Method	To control time	To control cost and time
Progress	Research and development project	Construction project
Manage	Unpredictable activities	Predictable activities
Appropriate for	Research & Development project	Non-research project. Example-ship building, civil construction

