[Glossary]

Quantitative Techniques for Management

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By
Ronak M. Patel
Department of Statistics
SOM-LALIT COLLEGE OF COMMERCE
Ahmedbabd

Glossary:

1. **Activity:** An activity represents some action and is a time consuming effort necessary to complete a particular path of the overall project thus each and every activity has a point of time where it begins and a point where it ends.
2. **Event:** The beginning and end point of an activity are called event or nodes.
3. **Network:** It is a graphical representation of logically and sequentially connected arrows and nodes, representing activities and event in a project. It is also called arrow diagram.
4. **Dummy activity**: Certain activities which neither consume time nor resources but are used to simply represent a connection or a link between the events are known as dummies. It is shown in the network by dotted line.
5. **Critical Path**: Critical Path is the longest path through the project **network:** the activities on the path are the critical activities therefore any delay in their completion must be avoided to prevent delay in project completion.
6. **Float:** The flat of free time is the length of time in which a non-critical activity and/or an event can be delayed or extended without delaying the total project completion time.
7. **Total Float:** This is the length of time by which an activity can be delayed when all preceding activities are completed at their earliest possible time and all successor activities can be delayed until their latest permissible time.
8. **Free float:** The free float of a non-critical activity is defined as the time by which the completion of an activity can be delayed without causing any delay in its immediate succeeding activities.
9. **Independent Float:** This is the amount of acceptable delay in the completion of an activity so that it neither affects its predecessor nor the successor activities.
10. **Optimistic Time estimate:** It is the smallest time taken to complete the activity, if everything goes well.
11. **Most likely time Estimate:** It refers to the estimate of the normal time the activity would take.
12. **Pessimistic time Estimate:** It is the longest time that an activity would take, if everything goes wrong.
13. **Direct Cost:** This cost is directly dependent upon the amount of resources available in the execution of individual activities.

14. **Indirect Cost:** This cost is associated with overhead expense such as managerial services, indirect supplies, general administration, etc.

15. **Cost slope**: The cost slope, indicating the increase in cost per unit reduction in time is defined as,

    Cost slope=$\frac{Crash\ cost-normal\ cost}{Normal\ time-crash\ time}=\frac{C_C-C_N}{T_N-T_C}$