

FACTORS AFFECTING WORK SCHEDULING, CASH FLOW CONTROL AND LFT

The factors affecting work scheduling:

(a) Time:

Most of the projects carry time constraints in the form of imposed dates, these dates may include constraints on start and completion of activities.

(b) Manpower:

Man power is one of the main in the successful execution of projects. The idle labour time is paid for and the strikes and breakdown of work are kept in view by manpower.

(c) Materials:

Construction materials are increasingly becoming scarce and their procurement is a time consuming process. The schedule aids in forecasting of materials and their timely supply determines the economics and progress work.

purpose of numbering events:

- i. It simplifies the identification and description of an activity in terms of event numbers.
- ii. The activities are coded as $i-j$ where i and j are the event numbers as commencement and termination of an activity.
- iii. It helps in developing identification code for computer application.
- iv. It systematizes the computations of critical path for each activity as far as possible, the number of the preceding event it should be less than that of the succeeding event.

cash flow control:

Activity float and schedules:

A number of different activity schedules can be developed from the critical path scheduling procedure described in the previous section. An earliest time schedule would

be developed by starting each activity as soon as possible, at $ES(i,j)$. Similarly, a latest time schedule would delay the start of each activity as long as possible but still finish the project in the minimum possible time. This late schedule can be developed by setting each activity's start time to $LS(i,j)$.

Activities that have different early and late start times (i.e., $ES(i,j) < LS(i,j)$) can be scheduled to start anytime between $ES(i,j)$ and $LS(i,j)$. The concept of float is to use part or all of this allowable range to schedule an activity without delaying the completion of the project. An activity that has the earliest time for its predecessor and successor nodes differing by more than its duration possesses a window in which it can be scheduled. That is, if $E(i) + D_{ij} < L(j)$, then some float is available in which to schedule this activity.

Illustration of Activity Float

Float is a very valuable concept since it represents the scheduling flexibility or "maneuvering room" available to complete particular tasks. Activities on the critical path do not provide any flexibility for scheduling nor leeway in case of problems. For activities with some float, the actual starting time might be chosen to balance work loads over time, to correspond with material deliveries, or to improve the project's cash flow.

LFT (Latest Finish Time):

It is the latest time by which an activity must be completed to ensure the completion of project within the stipulated time.

The classification of networks

1. Skeleton network
2. Master network
3. Detail network
4. Summary network.