PMP®
Lunchtime Lecture Series
with Eric Nielsen, PMP

Companion ReviewSheet
Series Lecture 9

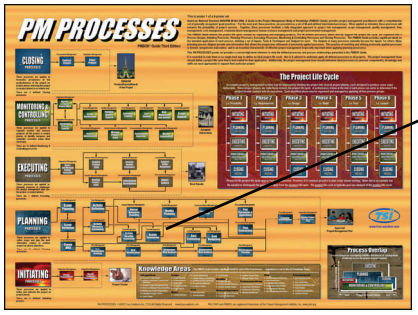
Applying the Activity Sequencing Process

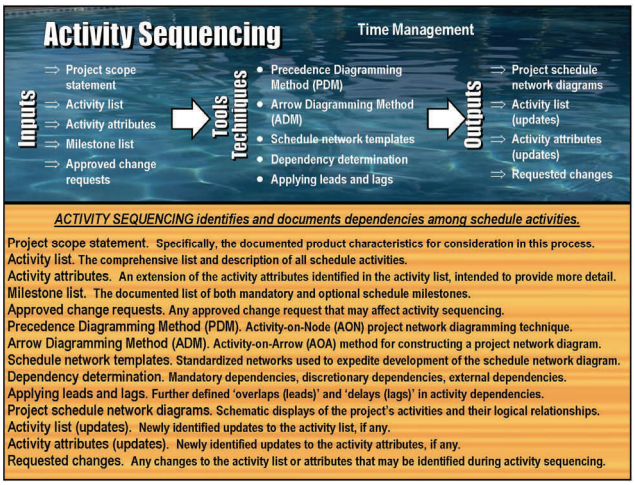
Activity Sequencing is the process of identifying the interrelationships (logical relationships) between individual project schedule activities, then documenting them using, what is generically termed, a Network Logic Diagram. This is an essential step that must be performed accurately prior to the development of a realistic and achievable schedule. Project Network Logic Diagrams are often (but not correctly) referred to as PERT Charts.

Intuitive sense tells us that certain project activities must be completed before others may start. In many cases, certain activities may be performed in parallel. In some cases, certain activities must start before others can finish. As you will learn shortly, there are four possible interactivity relationships. These relationships must be identified and documented in some form of Network Logic Diagram. This is what Activity Sequencing is all about.

As you might imagine, in a project with hundreds or thousands of identified activities, Activity Sequencing can be a very complex process. In real-world project planning, most PMPs rely on the use of project management software to automate and expedite the process. However, to pass the PMP Exam, we must develop the ability to manually create and analyze simple network diagrams. To accomplish this, we must first learn the fundamentals of Network Logic Diagramming, then spend some time with hands-on practice.

Because there is so much important information to cover in Activity Sequencing (compared to other processes), expect to devote a little more time to Activity Sequencing.





Activity Sequencing Must Know Concepts

1. "The Activity Sequencing process is intended to identify and document interactivity logical relationships."
2. "The primary deliverable (*Output*) of the Activity Sequencing process is the project schedule network diagram."
3. "The project schedule network diagram becomes the primary input to develop the project schedule."
4. "The project schedule network diagram illustrates all project activities and their predecessor/successor relationships/interdependencies. It also identifies the project's Critical Path and all of the activities on the Critical Path."
5. "The Critical Path is the longest path through a network diagram. It defines the shortest period of time in which the project may be completed."
6. "Network Diagrams are often referred to as PERT Charts (inaccurately). A PERT Chart is a particular type of ADM Network widely used in past years."
7. "Network Diagrams are typically created and documented using Arrow Diagramming Method (ADM) techniques, or Precedence Diagramming Method (PDM) Techniques. "
8. "ADM is also referred to as Activity-on-Arrow (AOA). In AOA diagrams, activities are represented by arrowed lines which are connected at nodes to illustrate their interdependencies."
9. "PDM is also referred to as Activity-on-Node (AON). In AON diagrams, activities are represented by nodes which are connected by arrowed lines to illustrate their interdependencies."
10. "AOA diagrams can show only one type of interdependency, Finish-to-Start (F-S). AOA diagrams sometimes need to include dummy activities to complete the network logic."
11. "AON diagrams can show four types of interdependencies (F-S), (S-F), (F-F) and (S-S). Dummies are not needed to illustrate network logic in AON diagrams."
12. "A Forward Pass (left-right through the network) may be performed to determine Earliest Starting times (ES) and Earliest Finish times (EF) for each project activity."
13. "A Backward Pass (right-left through the network) may be performed to determine Latest Starting times (LS) and Latest Finish times (LF) for each project activity."
14. "Slack (also referred to as *float, reserve, path float or total float*) for any given activity may be determined by subtracting ES from LS. Activities on the Critical Path typically have zero slack."
15. "Subnet (or *fragnet* or *subnetwork)* is a subdivision of a network diagram."
16. "Hammock is group of related activities illustrated as a single summary activity."
17. "Lead time and Lag time allows project teams to add realism and flexibility to their schedule. Lead time may be viewed as an overlap between tasks. Lag time is waiting time."

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