**New activities**

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After thorough analysis of previously created WBS and Gantt chart, the project manager has decided to add the following activities to help estimate resources and durations:

1. Determine task resources and create resource calendar
2. Create a network diagram
3. Determine each task duration
4. Establish critical path
5. Perform PERT analysis

The list of task resources and their availability will provide an overview of the amount of company resources allocated for the project and how long they will be available for the project. For example, it will give a project manager an opportunity to see how much time the respective personnel will be able to spend on each process and assign team members to particular tasks accordingly.

Creating a network diagram will help visualize all the activities involved in the project management. It will facilitate in finding the best path to the project completion.

The estimation of each task duration will help to determine the most accurate time needed for the project completion. The duration of each task is directly related to the availability of resources. The main documents that will be used in developing the most accurate activity durations are: schedule management plan, project scope statement, resource calendar, enterprise environmental factors, and organizational process assets.

The critical path will help determine the least amount of time it would take for the critical processes to occur. Once the network diagram is created and individual activity estimations are completed, it is time to calculate the critical path for a project:



PERT analysis can also be used to estimate project duration. It applies the critical path method to a weighted average duration estimate. By using the PERT weighted average for each activity duration estimate, the total project estimate takes into account the risk in the individual activity estimates.