

## Planning and scheduling a project

I keep six honest working men,  
They taught me all I know  
Their names are What, and Why, and When,  
And Where, and How, and Who

*Rudyard Kipling*

### Benefits of planning

- ◆ Reduces risks and uncertainties
- ◆ Ensures a clear understanding of objectives
- ◆ Establishes adequate standards of performance
- ◆ Creates credibility and ensures resources are available
- ◆ Provides a structured basis for carrying out the work
- ◆ Introduces procedures to control the work effectively
- ◆ Leads to the optimum result with minimum effort in minimum time

### Identifying key tasks and stages

Key stages of a project are central to the planning process. These key stages are the main areas of work. Each stage will be made up of a number of 'tasks', the detail that makes up the key stage. Both the key stages and the project tasks are important but for planning purposes key stages provide a manageable focus.

Brainstorm a list of tasks with your project team, then remove duplicates and cluster related tasks, debating dependencies and group tasks into key stages. This can be done by working on a table or wall, creating a start label on the far left of the space and a finish label on the far right. Close by clearly labelling each key stage and checking its dependencies.



*'Planning and scheduling a project' gives you a host of tools to use in thinking through the key stages and timeframe for your project, including how to draw your planning together to create an effective project plan.*

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## Work breakdown

The work breakdown (or WBS for Work Breakdown Structure) begins the process of creating a multi-layered plan that will continue to change during the project.

Under each key stage, list the tasks. The work breakdown is not concerned with dependencies but what tasks are involved to complete a key stage.

## Duration of key stages

Estimate the duration of each of the key stages. Ensure you use the same unit throughout, e.g. hour, day, week (as appropriate).

At this point in the planning, you could use a table such as the following to record the information for the project plan. This example records the initial stages for an office move.

<b>Key stage</b>		<b>Duration Weeks</b>	<b>Dependencies</b>				
<b>Code</b>	<b>Description</b>		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
A	Locate building	5	Nil				
B	Plan layout	1	A				
C	Clean up building	1	B				
F	Get quotes for alterations	5	B				
G	Get quotes for furniture	5	B				
E	Plan opening	1	A				

*Planning reduces risks and uncertainties*

## Gantt charts

Probably one of the most common planning tool, and sometimes called a bar chart, GANTT charts are ideal for simple project plans because they are easy to draw, provide a visual presentation of the schedule and are easily understood by others. They provide project managers with an overview and therefore a measure of control.

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Gantt charts can be augmented to show if activities are critical or not critical (in different colours or patterns), progress to date (another rule under the original line denoting the duration), and who is responsible for each activity (initials next to the activity).

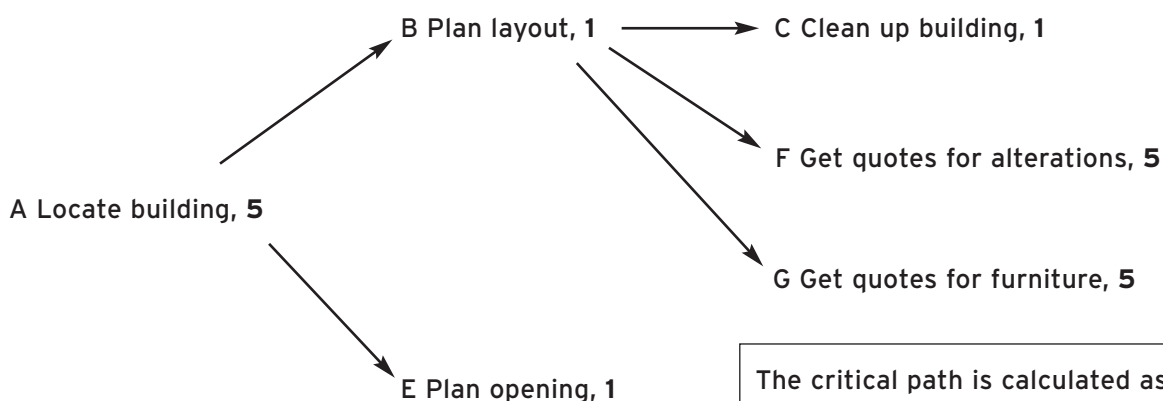
The original plan can be plotted on a Gantt chart with the actual duration of each activity shaded below each activity line. This provides a record of which activities in actuality ran ahead of or behind the schedule, a useful record of learning for application on future projects.

## Critical path

Activities where there is no leeway between the start and finish times need to be completed on schedule. If they are not, the entire project will over run.

Now that the key stages have duration and dependencies, it is possible to consider the shortest possible time to finish the project, and thereby identify these critical activities.

On a simple project it is possible just to look at the key stages and identify the critical path.



The critical path is calculated as follows:

$$5 + 1 + 5 = 11 \text{ weeks}$$

Although the clean up of the building only takes one week, the quotes for alterations and furniture cannot start until B is complete and they take 5 weeks.

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## PERT

On more complex projects, PERT (Programme Evaluation and Review Technique) is a useful method to help a Project Manager compress the time of a schedule.

PERT uses the same key stages as used in the task boarding exercise but allows more detailed work on the characteristic times for the key stage.

## Use of computers

Project planning software is readily available. As a rule it's necessary to do some initial preparation before you input project details. *Microsoft Project* is particularly well known for use in project planning. The advantages of using software can include accuracy (in-built error checks), speed, ability to handle complexity, ability to run different scenarios for contingency planning, and timesheet recording.

It is vital to bear in mind that a project is, however, entirely dependent on the people and not the software. After all, software cannot:

- ◆ Identify tasks and key stages
- ◆ Define the deliverables and benefits
- ◆ Decide dependencies between key stages and tasks within those key stages
- ◆ Actually do the project work
- ◆ Identify risks
- ◆ Rank risks
- ◆ Agree actions to solve issues
- ◆ Resolve conflicts, etc.

*Planning creates  
credibility*

## Responsibilities

Identify, negotiate and record individual members of the project team who will take responsibility for the work involved in completing one or more key stages. They become the key stage owner (KSO).

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## Budget

This may already have been established in the Project Brief. Even if this is the case, however, it is vital that it is now reviewed and more detailed work undertaken.

Work with the Work Breakdown to review costs. It is likely that there will be costs in four main areas:

- ◆ Capital equipment
- ◆ Resource direct costs
- ◆ Revenue costs for the project team, e.g. expenses
- ◆ Indirect costs such as chargeable overheads

## Key communication methods and dates

Part of the planning for a project needs to include the key communication methods and dates. Revisit the list of key stakeholders. Consider what the most appropriate method of communication would be with the key stakeholders: attend meeting, receive report, receive minutes of meetings?

Also plan the team communication. This will not just happen but also must be planned. How often will you meet? How else will you communicate? How regularly?

*Optimum results  
with minimum  
effort in minimum  
time*

## The plan

A lot of planning has been done. All too often, however, in the midst of busy working lives, the planning fails to be brought together into a *written* plan. Elements to draw together in a project plan are:

- ◆ Schedule showing key stages with work breakdown and critical path identified
- ◆ Responsibilities chart
- ◆ Budget
- ◆ Risk analysis results
- ◆ Key communication methods and dates (involving stakeholders)
- ◆ The original project brief annotated with any amendments resulting from the planning process