IESE Business School
University of Navarra

PN-461-E
December 2010

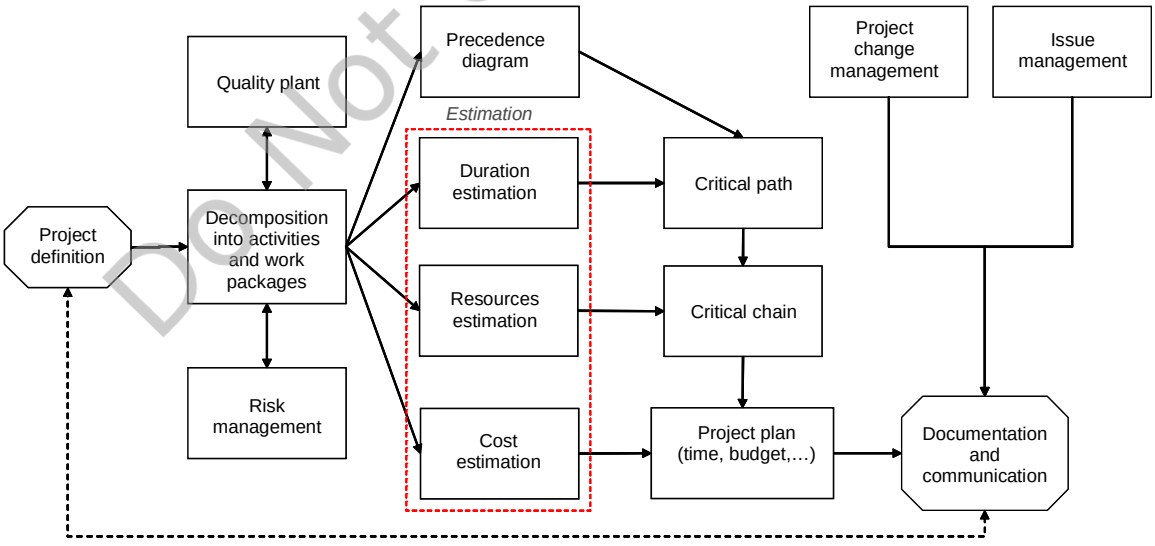
The Project Life Cycle: Planning

In preparing for battle, I have always found that plans are useless, but planning is indispensable.

President D. D. Eisenhower
(1890-1969)

After the project definition, we proceed to move on to the planning stage, where we will define the work to be done in much greater detail. The following diagram describes the various tasks that need to be done in the planning stage, as well as the connection between them (actually, this would amount to a plan of the planning stage). Not all projects will require that we go though all the boxes, but it is useful to have them in the same map, so that we can decide which ones we want to skip, rather than risking the possibility of forgetting an important one.

Figure 1



This technical note was prepared by Professor Jaume Ribera. December 2009.

Last edition: 6/2/10
2-610-009

This note will describe the boxes in the diagram, but in some of them (e.g., critical chain) the reader will be referred to other documents for further details. Also note that in this note we will assume that the information we use is very reliable. Managing uncertainty in projects is the topic of a complementary note.

Project Decomposition

A project is generally a complex job that will involve several people working for some time. We will start the planning stage by decomposing the project into smaller, more manageable parts (work packages, activities, tasks, etc.) Let us start by defining the different levels of decomposition that can be used in a project. Notice that there is no overall agreement on the use of these definitions, and some companies may use different ones.

Table 1

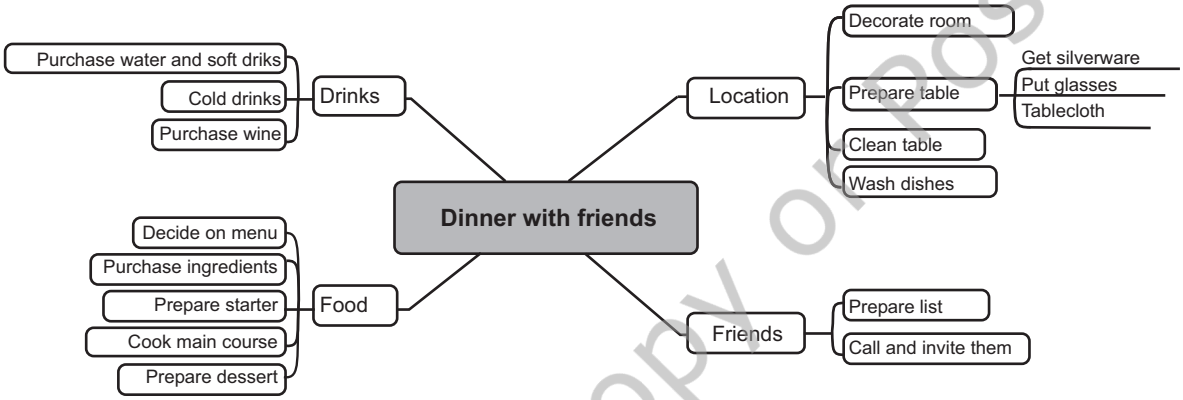
Project	A work organization to create something rather unique (as opposed to processes).
Subproject	A project which is, at the same time, part of a bigger project. The bigger project may have gone though the selection and definition stages as a single entity. However, the decomposition of a project into subprojects may facilitate the planning and monitoring stages, which can be handled separately.
Work package	The basic unit for project assignment. A work package may involve one or several activities, but it has one single package "owner" who is responsible for its execution.
Activity	A work element in the execution of a project. An activity has duration, cost, and a set of resource requirements. Activities are used for planning and monitoring. Usually every activity has an (intermediate) deliverable and an (internal) client. An activity can be further decomposed into tasks.
Task	A component of an activity, generally only visible to the project members who are responsible for the activity. It is generally only tracked at the low level and does not get monitored in detail when working at the project level.

It is a good practice to consider project decomposition as a group activity, doing it in working sessions with the participation of all project team members. This will help to ensure that everybody has a global view of the whole project, and each member of the team has an opportunity to contribute to the estimation of the parameters which will be essential in producing the project plan. It will also provide opportunities to strengthen team cohesion and to identify immediate clients and suppliers for each activity or work package.

Sometimes the decomposition of a similar project executed in the past may be used, or even some ready-made templates available for the most common projects (e.g., organizing a wedding). A useful approach to a project is to start with its deliverables and work backwards, asking how your team plans to complete them. You can use a structured approach, getting into finer levels of detail, asking again how you are going to do each of the steps, and repeating this questioning until you are satisfied with the level of details achieved.

Mind mapping, a technique developed by Tony Buza[1] for radial thinking, provides an interesting tool to decompose projects into activities. It engages the team better and generates enthusiasm for the project. Mind mapping can be done using a big paper and colored pens, allowing everybody to draw parts of the project tree. You can later use a software program to polish the results. The following diagram corresponds to an initial mind map for a project to organize a dinner with friends.

Figure 2



The level of detail you want to achieve in project decomposition depends on the type of project and the need for monitoring it closely. As discussed in the monitoring note, sometimes it is very difficult to know what percentage of an activity is really completed, because of the subjectivity or the willingness to show that everything is alright. If a project activity consists in writing an editorial for a newspaper, somebody may consider that it is already 50% done as he already has the topic selected, while somebody else may decide that this is not more than 3%. The best way to track the execution of a project is by checking activities that have been completed. Remember that, as mentioned in the table above, an activity should have an intermediate deliverable, and this helps a lot in declaring an activity completed. To avoid problems, when decomposing a project, try to get to a level of detail in which the estimated duration of the activities is of the order of magnitude of the "natural pulse" of the project. The natural pulse of the heart of a human being is around 70-80 beats per minute. If we examine a person and we get no pulse in 30 seconds, we know that person is in big trouble. Think about how long you can afford to have no pulse in a project (i.e., no movement, no sign of life) and still have no trouble with it. This would be a limit on the natural pulse of this project. You can also extrapolate this idea to cost. Then try to decompose the project into activities so that each of them does not exceed the time or cost limit.

[1] See Tony Buzan's, *The Mind Map Book*, BBC Books, 1993 for a general introduction to Mind Maps, or Brown, K. A. and Hyer, N. L., *Whole-brain thinking for project management*, Business Horizons, May-June, 2002 for some applications in project management.