LIQUID PROJECT MANAGEMENT

The first project that used the Gantt chart and other "modern" project management techniques was the Hoover Dam. It was delivered in 1936, two years ahead of schedule and with $ 15 million of savings.

Another important step in the project management history was the Polaris Program, ran by the US Navy for the construction of a missile to be installed on nuclear submarines (1956-1961). During that program many project management techniques have been used for the first time: Work Breakdown Structure, PERT techniques, periodic progress meetings and the use of a project room.

Initially project management techniques have been used in big projects with clear goals and dedicated teams. Under those conditions, the key success factors were the abilities to schedule many concurrent activities and to estimate the project's progress. Many techniques and tools of "classic" project management are indeed addressing these topics.

In the liquid world these techniques may not be sufficient to ensure the success of the projects, because the working conditions are often quite different:

- Simultaneous development of several small projects, competing for resources,
- Product requirements defined during the development process,
- Turbulence in the external environment (changing priorities, changing people, …).

The liquid project management thus requires new perspectives and new approaches, which are however based on classical techniques and tools.

Different planning levels

Because it is impossible to manage reliable and accurate project plans over the medium term, multiple planning levels should be managed, each one with different goals, time horizons and tools.

DIFFERENT PLANNING LEVELS
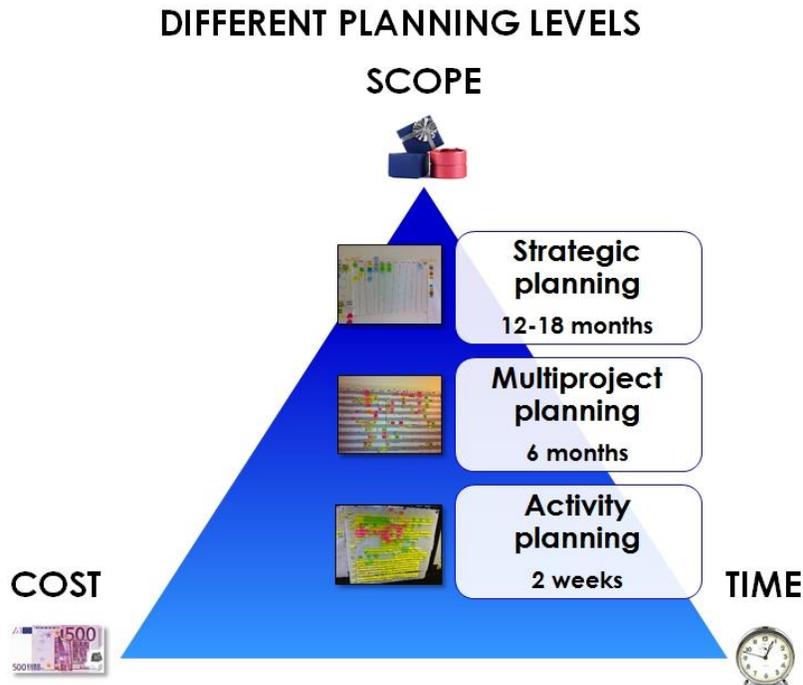
- Strategic Plan: identifies the products and services to be released in the next 12-18 months. This plan is based on market needs, business strategy and generic availability of resources. Information in this plan are synthetic and based on high level estimates.
- Multiproject Plan: contains the main events scheduled for all projects in the medium term (eg. 6 months). The main purpose of this plan is to align all business functions and all projects on the deadlines required for the implementation of the strategic plan.
- Activity Plan: consists of the detailed activity schedule in the short term (eg. 2 weeks). This plan should be compliant with the deadlines of the multiproject plan and aims to optimize the use of resources.

Alignment between the different plans is managed manually and not forced with software tools, in order to avoid the automatic (and blind) propagation of changes between different levels, which often generates unpredictable effects.

Social planning

The classical project management framework is a hierarchical structure, where the project manager defines the plan and team members perform their assigned tasks. Today planning has become too complex to be delegated to the project manager!

Planning has the purpose to let the team imagine the path that will lead to the project's results. Like all creative activities, to imagine is an activity that produces better results if done in team.

If team members participate in planning activities, plans are more flexible: in fact the duration of an activity may be redefined during a negotiation and precedence constraints may be sometimes replaced with more creative and smart approaches. Participants are also more committed to respect the social-defined deadlines.

Classical project management tools

In order to manage the project plan and align it with the company deadlines, each team may decide if and how use some classic project management techniques (work breakdown structure, Gantt chart, baseline, methods for estimating the progress ...).

**Progressive requirements definition**

In the liquid world requirements are defined gradually, together with the project activities. The true essence of project flexibility is then the ability to efficiently manage changes to requirements.

Development activities should be harmonized with the progressive definition of requirements. This was already addressed more than 20 years ago by software developers and led to methods called "agile project management" and "extreme programming".

In order to efficiently develop a new product, it is not mandatory to have all requirements defined since the beginning of the project. Every project may in fact be divided into sprints (e.g. lasting 2 weeks). Targets are set at the beginning of each sprint. Requirements may also be defined using the sprint approach.

Because requirements management is a complex activity, it is anyway useful:

- To increase the opportunities for direct and informal communication between marketing and technical team members,
- To use visual tools for requirements definition,
- To share the business goals (target customers, needs, product positioning, ...) with all the team members. This will increase the alignment between technical decisions and marketing "expectations",
- designers should also try to make technical decisions resilient against changes in requirements.

VISUAL REQUIREMENTS DEFINITION

■ Missing requirement
■ Defined requirement
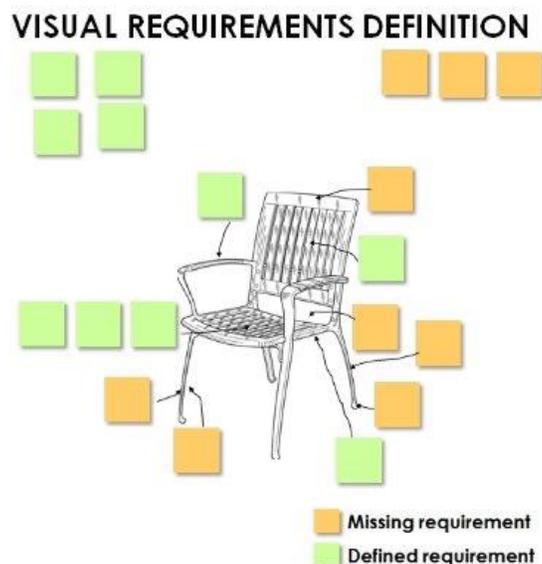
Visual tools for planning

Project management is not the primary concern of people: the real goal is to deliver the required results. For this reason, project management tools should be simple, fast and functional.

First of all managers need to avoid too much detail both in planning and in reporting.

Secondly, the use of visual tools (when possible) will provide important advantages. Visual tools are in fact easy to understand, to customize and to update, they facilitate both communication and involvement of people, they stimulate brain circuits different from the logical-mathematical ones, improving the quality of the plans and moreover they are low cost.

It is important to move towards the liquid project management, because managing liquid projects with a classical project management approach requires a lot of effort and often leads to poor results.