



Project Management for Development Organizations

Doing the Right Projects,
Doing the Projects Right

The Project Constraints

A successful project means that it has been delivered under budget and schedule in addition to meeting all stakeholders' requirements. But, in reality very few projects are able to actually meet all these goals, it is most common that projects run late, over budget and do not meet the beneficiaries' needs.

"The Guide to the Project Management Body of Knowledge" (published by the Project Management Institute, 2000)—referred to as the PMBOK, pronounced "pimbok"—defines a project as "a temporary endeavor undertaken to create a unique product or service."

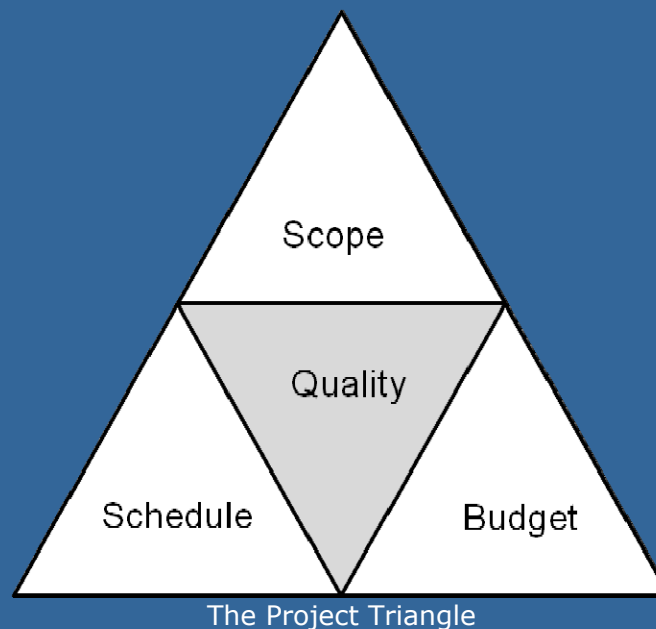
We will use this definition to clarify the definition of a project:

- The first characteristic of a project is that it is temporary, that it has a schedule to meet. The duration of a project may last from a couple of months to a couple of years but all projects have an end. The end of a project can be defined by the donor, the beneficiaries, or by the project budget or scope.
- The second characteristic is that a project uses its budget to acquire the necessary resources to conduct project work including people, equipment, materials and any other tools utilized to complete an activity, produce an output, and achieve an objective. The

required work to accomplish the project activities is undertaken by the project team who follows the detailed plans.

- The third characteristic is that a project will produce a unique service or product (the output) usually referred as 'a deliverable'. The tangible and measurable conditions of deliverables are agreed by the donors and beneficiaries before the project starts. A unique service or product results from a list of requirements that define the scope, range, and extent of work that the project will accomplish given a certain amount of time and money.

One way of visualizing the project work is to see the relationship between the scope, schedule, and budget in the form of a triangle. This relationship is known as 'the project triangle' due to the close interrelationship of time, money and scope. In this triangle, each side represents one of the constraints wherein any changes to any of the sides causes a change in the other sides. For example a change or adjustment to reduce the schedule will change the scope or the budget.



- **Scope** is what the project is trying to achieve, it entails all the work involved in delivering the project outcomes and the processes used to produce them; it is the reason and the purpose of the project. Scope is the boundary of a project, it is what the beneficiaries, and the donors expect from the project, nothing more, and nothing less.

- **Schedule** is defined as the time to complete the project. The schedule is often the most frequent project oversight in developing projects. This is reflected in missed deadlines, incomplete activities, and late donor reports. Proper control of schedule requires the careful identification of tasks to be performed, an accurate estimation of their durations, the sequence in which they are going to be done, and how people and other resources are allocated. Examples of schedule constraints are: Building a schoolhouse, the roof must be finished before the rainy season arrives or training farmers must be completed before the harvest season starts.
- **Budget** is the costs approved for the project including all necessary expenses to deliver the project. Within development organizations, projects managers have to balance between not running out of money and not under spending because many projects receive funds or grants that have contract clauses with a 'use it or lose it' approach to project funds. Poorly executed budget plans can result in a last minute rush to spend the allocated funds. For virtually all projects, the cost is ultimately a limiting constraint; few projects could go over budget without eventually requiring a corrective action.
- **Quality** is defined as delivering the project outcomes according to the stated or implied needs and expectations of the project beneficiaries and the donor agency in order to meet stakeholder satisfaction. It also means complying with quality standards that are either mandated by the donor, local government (such as laws and regulations), or by professional standards (such as health). Quality is not necessarily a constraint but rather the result of achieving the project and managing the three constraints of scope, schedule and budget. It can be said that a project that meets these three aspects has meet 'the quality' or 'the needs of donors and beneficiaries'.

Managing the Project Constraints

Every project has to manage four basic constraints: scope, schedule, budget and quality. The success of a project depends on the skills and knowledge of the project manager to take into consideration all these constraints and develop the plans and processes to keep them in balance.

Managing the four constraints also involve making trade-offs. All projects are implemented using estimates to establish the schedule and budget to deliver specific objectives; therefore, projects are implemented with many uncertainties and exposed to many risks which require revisions to the original plans along with negotiations with the different stakeholders. Changes in the social and natural envi-

ronment can delay a project, increase its budget, or reduce its scope forcing the project manager to evaluate his/her alternatives and negotiate with the donors and beneficiaries for modifications.

Project management is in essence the art, science and craft required to balance the scope schedule, budget, and quality constraints of the projects. The project triangle illustrates the process of balancing constraints because the three sides of the triangle are connected, and changing one side of a triangle affects at least one other side, and all sides affect the center where quality is placed.

Here are some examples of constraint balance:

- When the schedule of a project needs to decrease, the project might need to increase the budget because more resources are needed to do the same work in less time. If the budget cannot be increased (the donor doesn't approve the increase), then the scope might need to reduce because the resources available will not be sufficient to complete all the planned work in less time.
- When the budget of the project decreases, the schedule might need to stretch out because the budget is not available to pay for the staff originally planned. If time cannot be increased the other alternative is to reduce the project scope because fewer staff will not be able to do all of the planned work in the available time.
- When the project scope increases, there is a need for more time or more resources (budget) to complete the additional work. When the project adds more work than the originally budgeted it is important that before the new work is started, there is an approval from the donor for additional funds, otherwise the project will end up with a budget shortfall that could have an impact on the expectation of the beneficiaries.

Quality is at the center of the project triangle because it affects every side of the triangle, any changes made to any side of the triangle are likely to affect the quality. Quality is not a factor of the triangle; it is a result of what you do with the schedule, budget, and scope.

For example, the project may find additional time in the schedule that can allow staff the time to increase the quality of the objectives without necessarily increasing the scope. On the other hand, a need to cut activities to meet the budget might result in a decreased scope, which reduces the opportunities to achieve an acceptable level of quality; therefore, lower quality results from the need of cutting costs and reduce planned activities.

Scope, schedule and budget are the three essential elements of any project. To succeed as a project manager, you'll have to know about how all four of these constraints apply to your projects.

Managing these constraints is the main responsibility of the project manager. Each constraint has a specific goal and a project is deemed successful when it achieves all three. Failure in any of the three has an impact in the other two, a delay in a project has an impact on its cost, and an increase in scope has an impact in both time and budget.

These series of articles focuses on concepts and practices related to development projects. It is our hope that the ideas and methodologies presented here prove useful to anyone who is engaged in managing projects in the broader development community, and helps bring sustainable benefits to the communities and beneficiaries who need it the most.

The Millennium Development Goals aim by 2015 to reverse the grinding poverty, hunger and disease affecting billions of people.

PM4DEV is committed to provide resources and develop knowledge and expertise to support development organizations in their efforts to achieve this ambitious goal.



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