

Scoping-Out Project Scope

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When planning or describing projects, people often refer to project "scope". When asked to explain it, most can come up with its basic dimensions - project performance, budget, and schedule. Yet, many people doing projects do not fully understand the power of this tool.

A clearly defined scope gives direction to a project. Scope also creates a framework for making tradeoffs when a scope element changes. It focuses decision-making and negotiations on the real impact and cost of changes.

Finally, when combined with key financial information, it supports better business decisions.

Project Direction

To manage, you must know what you want - a goal or standard - plan how to get there, take action, then check results against the goal to make corrections. No goal, no management. (Even if there is a lot of activity, there is **no** management).

Scope helps project success by specifying three standards to "manage". It specifies what the project is supposed to produce, its "deliverables", the budget or other resources allocated and, the schedule for doing it.

A caution: Scope, by itself, does not ensure sound project management.

Scope spells out "What", but not "Why?" Total control and motivation is improved if project participants also know the project's mission or purpose. Lacking this context, people can manage project scope to make *efficient* decisions, but need to understand the bigger picture to make *effective* decisions.

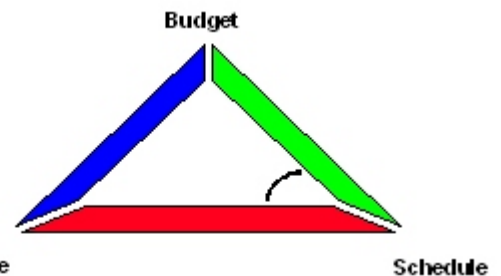
Using a "mushroom" management style is dangerous and possibly fatal in project management. In the fast moving, complex, environment many projects face, clear purpose helps effective adjustments and decision-making at the front line, where it is needed.

Project "Tradeoffs"

Once scope is set, it defines a relationship much like the angles of a triangle. The inside angles add up to 180°. If circumstances require that one angle of the triangle be reduced, say from 60° to 40°, does the sum of the angles change to 160°? Of course not, the sum is always 180°.

Likewise with project scope. If one "angle" changes, one or both of the others must also. If budget is reduced, performance and/or schedule has to change as well.

If scope is pictured graphically, it looks like this:



Another caution: This fact is often ignored. "Management" (or a client), dictates a schedule speedup, without allowing other changes. If this happens, what can we assume?

They are stupid, or

They think the plan has excess contingency, or

They think there is room for project redesign

A project manager cannot deal with any of these effectively unless he can document sufficiently detailed plans to justify off-setting changes. With detailed plans, the "change order" becomes a *negotiation* over performance cuts or budget increases.

Business Decisions

A vital factor for effective *business* decisions is still missing. Understanding scope and purpose guides better tradeoffs between project scope elements. But, considering *revenue* helps even more.

Revenue is the income stream generated, or saved, by the completed project. If it is a product development project, this is the sales revenue generated. If it is a process improvement project, this is cost reduction.

Better business decisions are made about scope changes with this information. If, for example, a project will generate \$200,000 per month in new or improved revenues, we can determine the real net cost of scope changes. If speeding up this project costs \$10,000 per week in overtime and equipment rentals without any reductions in performance, it makes sense to speed up for a net gain of \$160,000 per month.

Developing Scope - An Iterative Process

There is a tradeoff between accuracy - the plan's thoroughness - and the residual contingency when developing project scope. Contingency is an allowance for unknowns. All projects should contain some contingency, ("slack", "fudge factor", or "padding") because there are always unknowns that will disrupt any plan.

There is also usually a tradeoff between speed and accuracy. The more thorough the plan, the more time and effort needed to develop it. Finally, there is a relationship between project phase and accuracy/contingency. A project's early phases have more contingency and less accuracy. An example:

The VP of Marketing or Engineering calls "Sue" (middle manager, project engineer, assistant, etc.) at 7:18 AM from his car phone with a hot project idea: "find out what it would take to centralize our IS facilities in the downtown office."

Sue quickly studies space availability, HVAC upgrades, rental rates, moving costs and so on, returning later with, "It would only take eight months and cost \$790,000". This puzzles the VP who was thinking of moving the PC support group's 6 employees at an approximate cost of \$10,000! Sue gets back to work on a second iteration. Some points.

For each iteration, Sue developed a plan and scope. She did a "WBS" identifying the steps to do the specified task (as understood), extrapolated resource and time demands and presented her conclusions.

Her accuracy was a function of the target "deliverable" as understood, how well she identified the steps to do the project, and "unknowns". (either "unknowable" or, the result of short-cuts).

Iterations are normal in a project's feasibility phase. A winnowing-down process brings increasing focus to the idea. As steps are identified, they may clarify the idea.

Since **each iteration takes time**, Sue or the V. P. could have saved considerable time and money by getting more specific before beginning.

At some point, the V. P. may approve the project, **locking in the scope** as defined in the last iteration. The remaining contingency is a factor of the plans detail, Sue's experience, technical uncertainty and other variables.

Improving Performance

It is often possible to reduce contingency, increase accuracy and increase speed or, at least improve two out of three! Three techniques:

Use concurrent planning (bring "downstream upstream")

Use divergent and convergent planning methods

Insist on, and develop, a clear mission early

There is planning and there is planning. Project schedules (speed), cost and performance can be improved with accelerated planning techniques.

One of the most important is to "bring downstream upstream". Involve everyone impacted by, or impacting, the project early. Their early input clarifies expectations and reduces rework (fewer false starts and missed relationships). This has immediate impact on planning accuracy and costs and a lagged impact on speed - you invest time on the front end to save more time on the back end.

Another planning technique is to use "divergent", or broadening, idea generation techniques early in the planning process. Techniques such as *Force Field Analysis* or *Affinity Diagramming* identify less obvious issues impacting the project early, so they can be included in detail planning before the fact rather than after-reducing rework. Then, "convergent", focused, techniques such as *Tree Diagramming* or *Work Breakdowns* can develop detail.

Finally, as illustrated above, the clearer the mission, purpose and/or concept, the less time wasted on definitional iterations.

To summarize, careful planning is a project manager's best basis for defining, and defending, project scope and their accountability. Even if they are given a defined scope, careful planning provides the information they need to argue their case for adjustments.

Doug Pearson's experience includes twenty-eight years in higher education, training, management, and organization development.

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