

Resource Contingency Planning

Flexibility is a Virtue

“In war, before the battle is joined, plans are everything. But once the shooting begins, plans are worthless.” (Dwight D. Eisenhower)

Resource Contingency

Anyone who attempts to define and schedule discrete resource assignments out into the distant future (that is; more than a few weeks) is living in a fantasy world. For certainly, the schedule will change, the resource availability will change, even the scope of work (tasks) will change.

On the other hand, anyone who does not plan for resource needs, out into the future, is equally irresponsible and is courting disaster.

What then are we to do? The answer is **Resource Contingency Planning**.

It is altogether proper to proceed with the attempt to allocate and schedule resources as part of a long range plan. But, rather than casting the results in concrete, use the results to forecast critical demand. The long range plan should be updated regularly. Critical resources need more frequent analysis. In most cases, the long range resource allocation can be by skill (class of resource), rather than by individuals.

Ask “What If?”

Resource Contingency Planning calls for a lot of “what-if-ing”. What if I don’t have four Cobol programmers in June (as shown as needed in the long range plan)? What if my only fiber optics engineer quits or becomes disabled before his critical assignment to Project Beta in mid-July? What if the twice-delayed Gamma Project finally gets added to the mix in August?

There is much, in a multi-project environment, that is out of our control. It requires that we be prepared for most potential situations. These can be identified by a vigorous risk analysis, based on past experience and perceptive forecasting. You may not be able to forecast specific events, such as an eight-inch rainfall that fills in your excavation and collapses your concrete formwork. But you can note that the possibility exists. You can ask “what-if?”. What does it do to the schedule and what is the potential impact on my resource plan?

But let’s get back to some of the what-ifs mentioned earlier. [What if I don’t have four Cobol programmers in June?] If this is of concern, we can begin to consider possible remedies or mitigation actions. These might include (1) alternate resources, (2) outsourcing, (3) task delay, (4) additional hires, (5) priority shifting, (6) reducing scope, or (7) accelerate tasks.

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[What if my only fiber optics engineer quits or becomes disabled before his critical assignment to Project Beta in mid-July?] Here we might consider (1) alternate resources, or (2) outsourcing. [What if the twice-delayed Gamma Project finally gets added to the mix in August?] Priority shifting or farm out of some of the work might be in order.

None of these actions need be taken at this time. But action should be taken to facilitate the specific resource solution should the potential need arise. Alternative resources (skills) should be identified and evaluated. Outsourcing and farm-out candidates should be contacted and evaluated. Trigger dates for action decisions should be determined and auto alarms set up. Potential scope adjustment options should be evaluated.

Resource Contingency Management, therefore, is the practice of

1. forecasting resource needs
2. performing associated risk evaluations
3. being prepared to take resource actions to meet project objectives and constraints

Balancing Project Objectives & Constraints

A major aspect of managing projects is the balancing of objectives and constraints involving project time, resources, costs, quality and workscope. These are five key dimensions of any project and for each of these elements there is always the risk of missing defined targets.

More often than not, there are penalties involved in missing such targets. Some penalties may actually be spelled out in the contract. Others may be more subtle and ambiguous. Some targets may be imposed as a condition of the contract. Others may be implied by a sponsor as a set of objectives. In either case, there is a price to pay when the targets are missed. It may be an inexplicit penalty, such as a dissatisfied client. Or it may involve a significant fee reduction.

A missed schedule target could leave a client without key services. The unavailability of key resources when needed could throw a schedule out of joint. Cost overruns or adverse cash flow can upset the apple cart. Any of these could effect the workscope, resulting in a reduction in deliverables.

A well-planned project addresses these issues. A well planned and managed project will identify potential schedule, resource, cost and workscope problems and will provide defined contingencies for each risk element.

Resources are Part of the Picture

If we accept the basic rules of project management, as noted above, then it must be apparent that resources are just part of the picture. No resource plan can be fixed in place because the resource plan must always be subject to change to help balance the four components of a managed project.

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The project team will juggle aspects of time, cost, resources, quality and workscope to obtain the best balance of these components to support the project objectives within the project constraints. The prudent and risk adverse project manager will perform resource planning, but will be prepared to seek and implement alternative strategies to achieve the best balance of project performance components. Among the actions that can be performed in this regard are:

1. Improve effort estimates.
2. Apply the PERT concept to effort estimates. That is; use three estimates: optimistic, pessimistic, and most likely. This will provide a range of effort, which will illustrate the risk of exceeding the most likely figures. Unfortunately, no computer program yet exists that considers three effort estimates and provides a statistical analysis of the values.
3. Avoid deliberate overloads. Assume that resources will be available less than every hour of the day (which is certainly realistic).
4. Plan the immediate future in detail (for resource loading), but use long-range schedules only to get an idea of the resource load factors (rather than being concerned with which resource is working on which task six months into the future.
5. For long-range resource planning, concentrate on the class of resource (skills) rather than specific people.
6. Where the long-range projection indicates a potential overload situation, make early (flexible) plans for bringing in additional resources. Identify options and sources.
7. Where possible, identify alternate resources (skills) that can be used if the preferred resource is in short supply.

Closing Thoughts

Being flexible is not a sign of weak management. On the contrary, excessive rigid ness could more easily be faulted. However, prudent flexibility should be part of a structured, proactive process.

Alternatives for critical content should be identified in advance, and project reviews should be scheduled prior to the deadline for exercising such options.

Contingency planning and management should also be applied to schedules, costs, and workscope. (These are addressed in other papers.)

All of this is part of the risk management aspects of a project, with the immediate objective of balancing schedule, cost, resources, quality and workscope, and an end objective of maximizing client satisfaction and project success.

Contingency planning and contingency management are essential to project success.

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Harvey A. Levine, with 38 years of service to the project management industry, is founder of **The Project Knowledge Group**, a consulting firm specializing in PM training, PM software selection, evaluation & implementation, and PM using microcomputers.

He has implemented or enhanced the project management capabilities of numerous firms, often combined with the selection or implementation of computerized project management tools. Mr. Levine is considered the leading consultant to the project management software industry and is recognized as the leading expert in tools for project management.

He has been an Adjunct Professor of Project Management at Rensselaer Polytechnic Institute and Boston University. And has conducted numerous project management public seminars for ASCE, AMA, IBM, and PMI.

Mr. Levine is the author of the book "Project Management using Microcomputers", and has been published extensively in other books, periodicals and videos.

Mr. Levine is a past president of the Project Management Institute and the recipient of *PMI's 1989 Distinguished Contribution to Project Management* award. Recently, he was recently elected as a *Fellow of PMI*.

Mr. Levine has offices in Saratoga Springs, NY and San Diego, CA and can be contacted via e-mail at: LevineHarv@cs.com

