

## Program Management fundamentals – Risk and Interdependency

There has been plenty written elsewhere about how a different approach is needed when managing a Program rather than a Project. Sometimes the differences are obvious, other times differences are more subtle. This article focuses on two areas of planning and control, namely Risk and Interdependencies. The two areas are tied since Interdependencies are one of the primary areas of Program risk.

### ***You need standards***

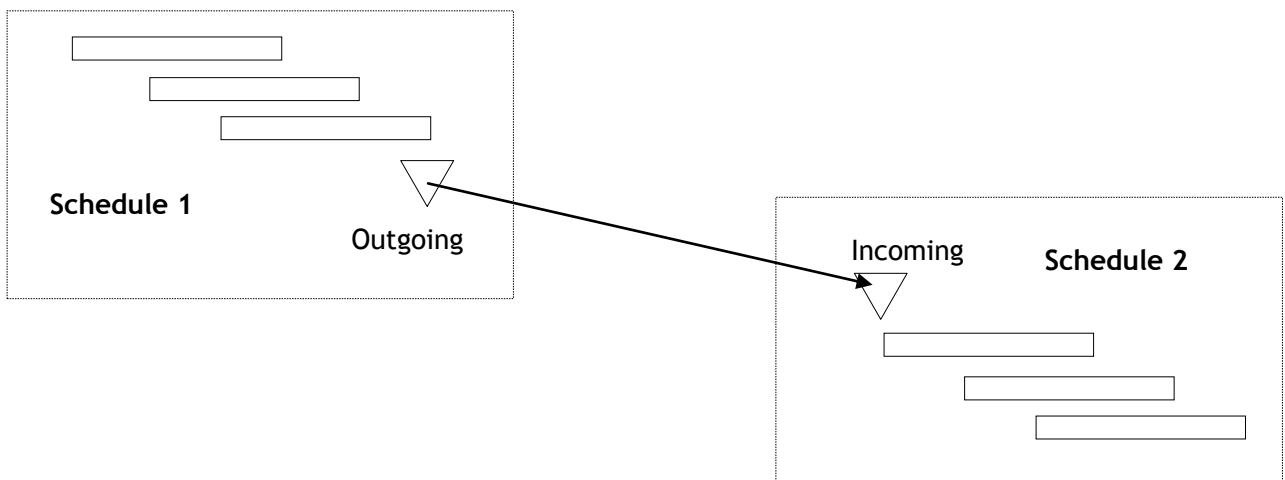
It would come as no surprise that the first recommendation when planning and controlling a Program of work is that standards be adopted. A standard approach to scheduling, standard use of fields, consistent use of Issues and Risk logs, standard reports and reporting cycles are all necessary. Standards aren't popular with some Project Managers but can save Program Managers from a great deal of pain when trying to consolidate and integrate plans and reports across the Projects associated with their Program.

The approach to scheduling is perhaps the most difficult to achieve, particularly when advanced updating techniques and float calculation may not be well understood by some.

### ***Focus on Interdependencies***

Assuming the scheduling standards are adhered to, one would assume that a Program simply needs a very large schedule. Project Managers who move into Program Management soon find that is not the case. Try making sense of, and keeping up to date, several thousand tasks across multiple schedule files, it soon becomes overwhelming.

One way to manage a large Program of work is to use a Master and Sub Project structure, delegating responsibility for creation and maintenance of Sub Projects to Project Managers (and/or their schedule support staff). Focus everybody on interdependencies between sub projects and ensure the producer of the outgoing dependency has ownership of the product and the consequences of any delay.

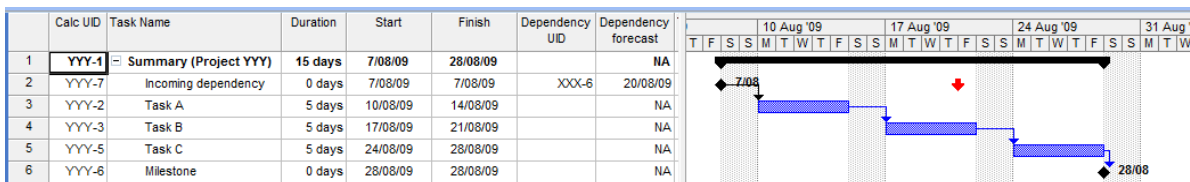


The interdependencies can be identified very early in the planning process, well before a detailed schedule exists. The following steps may help:

1. Interdependencies are often associated with deliverables. Interdependencies should be represented as Milestones, particularly in the recipient schedule.

2. Clearly define the expected state of the dependency (eg draft, final, signed off) to ensure there is no misunderstanding
3. The producer and recipient need to formalise the agreement, there must be a personal commitment involved
4. Once agreed, change must be controlled (eg deletion, descriptions, Baseline date)
5. Uniquely identify the outgoing dependency in the incoming file (difficult with MS Project, but there are work arounds), this will help with electronic data exchange
6. Consider whether to actually link via inter project linking, whether to just pass through forecast (perhaps into another field) or rely on manual updating
7. Include Interdependency dates in reporting, focus on any shifts in forecasts since the previous report

Shown below is an example of how a schedule might show dependency forecasts on an incoming dependency and leave the rescheduling decision up to the Project Manager. Note the Project Manager has identified the item in the producer's schedule.



There are several implications of a focus on dependencies when managing schedules which will need to be considered:

- The tendency for dates to continually drift unless Project Managers are made accountable to the affect of delay on recipients
- Time needed within reporting cycles for corrective action planning
- The complexity of whole of Program critical path analysis

***Include the Resource dependencies***

What is often more difficult to model in schedules is resource dependency. Whether the resources are unique but shared resources, generic resources or specific infrastructure (such as a test environment) modelling a resource dependency can be difficult.

In Project scheduling, concepts such as the Critical Chain Method were developed to formalise resource dependencies within a Project Schedule. Applying such a method across a Program would prove extremely complex and would be unlikely to provide the desired outcome. A better approach would be to model just the key resource dependencies, making them obvious through the use of Milestones and interdependencies as outlined above. Descriptions should be very clear and agreement from the Resource manager sought.

Allocating resources in schedules can provide much value if done in a standard way by people who know how to drive the scheduling tools. Consistent rules (eg Fixed Duration, Effort driven off for those who use MS Project) are needed along with accurate effort based % resource allocation. By tying all schedules to a common resource pool, the overall utilisation and achievability of the program can be determined. Such an assessment may then lead to the need to prioritise or supplement resources.

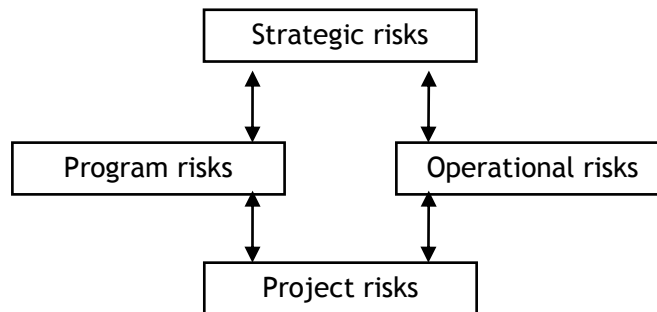
Actual effort tracking in scheduling tools still remains complex and tedious, rarely worth the scheduling effort. Resourced schedules can however assist in the Estimate to Complete and

hence financial reporting when combined with Timesheet data. Resource models need to align to both the schedule as well as the timesheet and cost control systems, another area of complexity.

**Adopt a Program view of Issues, Risk and Change**

On first glance, managing Program Issues, Risk and Change would appear to be similar to the approach used when managing a Project. The Program must consistently use common control tools, assessment criteria and metrics for tracking Issues and Risks similar to those used on a Project. The subtlety comes in the overall context, especially the assessment of impact.

The following diagram shows the interrelationship between Program, Project, Operational and Strategic risks.



Adapted from Interrelationships diagram in OGC MSP guide pg 122

While a delay may appear to be high impact to the Project Manager, to the business as a whole the delay may not be such a large problem. Conversely a relatively small delay, in the Project Managers opinion, may have a significant affect on the business. The Program Manager must have the strategic view, especially judging impact based on the Business benefits the Program needs to deliver. Program Risk management will be more affected by organisational risk procedures and risk tolerance than individual projects, most likely with the involvement of corporate Risk and audit people.

The key to Program Risk management is to centralise but separate the Project and Program risks. An escalation process will need to exist so that a Project level risk can be escalated to the Program level. Program level risk response plans need to be able to be allocated back to the projects and tracked accordingly. Any common Project risks need to be able to be summarised and represented at the Program level.

Issue Management would also appear similar. The difference comes in the volume of Issues, and because of the immediate nature of dealing with them, the need to prioritise. Issues and Change are often closely aligned since change of scope or plans are often part of the response plan for an Issue. Change must be managed from a Program rather than Project perspective, with a focus on impact to Benefits delivery.

**Remember the Risk and Contingency budgets**

When considering risk within a Program, one often misunderstood area is the level of Contingency and how that Contingency should be shown. Program Managers may distribute the financial contingency reserves or centralise them across the Program. When centralised, the process for requesting and distributing needs to be carefully thought through. The representation of schedule contingency is also complex, once again standards and a defined process will help.

Options for contingency may include one or more of:

- Holding contingency outside Program Manager's control (usually controlled by the Sponsor)
- Creating a centralised risk/contingency budget, estimated based on the Risk response plan costs and allowance for impact of unknowns, controlled by the Program Manager (but perhaps authorised by the Steering Committee)
- Creating within each Project a risk/contingency budget, controlled by the Project Manager (but perhaps authorised by the Program Manager)
- Burying a level of contingency within detailed plans

Management culture will impact the treatment of risk and contingency budgets, particularly where the contingency is mistakenly perceived as "fat" rather than factored in budget which will be used. Program Managers will often need to educate senior management and the Steering Committee on managing risk and contingency budgets.

### ***In conclusion***

Developing an open and honest culture, where Risks and Issues can be raised without fear, is important. Program Managers provide the leadership role to the Project Management team and are the link to senior management and business strategy. Success of a program is more often than not aligned to achieving the benefits, benefits to outcomes, outcomes to deliverables, deliverables to projects. Projects are managed by Project Managers who are part of the Program Manager's team. The team exists to deliver the Program, not a series of disconnected deliverables. Teamwork includes working together in a consistent way, following a standard approach.

So managing a program is not the same as managing a project, it needs a different approach and a great deal of experience. The best approach is to learn from others, a great starting point is to read the OGC's "Managing Successful Programs" guide.

### ***About the author***

*Martin Vaughan is a Senior Consultant and Director of Core Consulting Group who has specialised in Project Management across a number of industries. With a strong interest in education, Martin has helped to define standards and competencies, particularly around Cost, Risk and Schedule.*