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How to Produce an Adequate Integrated Project Schedule

The Integrated Project Schedule is an essential coordination tool in Projects, in particular because it focuses on the interfaces between different functions. In our consulting interventions we often notice that Integrated Project Schedules do not have the expected quality. This necessarily leads to poor decisions being taken on the basis of inaccurate data. In this White Paper we summarize the expected properties of Integrated Project Schedules and how to build them properly at the onset of a Project.

Who is the Integrated Project Schedule for?

This might seem an obvious question but it is not always clear in Project-driven organizations, because of the different expectations of various stakeholders.

It needs to be unequivocal that the Integrated Project Schedule shall first and foremost be a tool for the Project team.

Hence, while of course consideration should be given to the needs of various stakeholders, these needs should only be addressed inasmuch as it does not create significant burden on the primary purpose of the Integrated Project Schedule.

Key principles for the production of the Integrated Project Schedule

- **Make sure the schedule is fully aligned with the Project's objectives and strategy.** A good practice is to have derived and formalized detailed Project goals at the onset of the Project.
- **Concentrate on the interfaces between functions:** the Detailed Functional Schedules do cover in detail the activities and linkages internal to the functions,
- **The typical duration of an activity should cover a number of reporting periods:** so as to be able to do meaningful update and forecasting, activities should typically span over a number of reporting periods for the Integrated Project Schedule.
- **Very early activities (in the first 2-3 months) and close-out activities should be represented by sets of milestones** rather than activities that would be tracked with physical progress,
- **The activities should be easy to update with actual physical progress measurement:** it is important to make sure that the activities in the Integrated Project Schedule correspond to work that will be easy to update and re-forecast,
- **Vary the detail of the sequences of activity according to their criticality:** the level of detail used throughout the Integrated Project Schedule does not need to be consistent. Low criticality sequences of activities can typically be represented with a fairly low level of detail, while more critical activities (because of their schedule criticality or

The main issues in Integrated Project Schedules are Detail Level and Balance Between Functions

because of a high uncertainty in their delivery) can be significantly more detailed,

- **Use custom fields to code the activities according to all the different views and filters you intend to use.** This is very important to ensure that the Integrated Project Schedule will be used to the maximum.

Producing the Integrated Schedule in Practice

From scratch: top-down approach recommended

History of Project management has definitely demonstrated the superiority of the top-down approach to Project execution planning where all functions sit together to determine the optimal trajectory, versus the traditional bottom-up approach where each function states its best schedule and it is then aggregated. It is for example, typically the type of approaches that allows industry challengers to again and again turn around similar Projects with a much lower cycle time.

A recommended practice when developing a Project Schedule from scratch is thus first to have a good high level view of the Project sequence. This is achieved by brainstorming a Convergence Plan first. With a representative set of knowledgeable people from all relevant functions, such a Convergence Plan is easily produced in a day.

Then, moving backwards and constantly asking the question "*what's really important/critical for the delivery of that piece of the Project?*" the most important sequences of events will appear readily. They can then be brought together consistently in a schedule.

From the tender / feasibility schedule

Even if the tender schedule looks very detailed it will almost certainly not be suitable to control Project execution (due to the way it is built and broken down) and needs to be deeply reviewed to suit the requirements of an Integrated Project Schedule. A significant work is still to be planned in that respect at Project start-up.

Do not ever take the estimating schedule as the baseline schedule for controlling Project execution without a deep review! A significant amount of work is thus needed to produce an Integrated Project Schedule that fits the needs of Project execution, even if there is a schedule available. The most common problem will be to remove details.

Once again, we recommend starting with establishing the big picture – the Convergence Plan. It will allow the Project team to have a high level strategic discussion on how the Project should be delivered, that will inform the later Integrated Project Schedule simplification and areas of focus.

Thereafter comes the most difficult of all: simplifying the Project schedule. Resistance will come from all fronts – not to forget the planner's resistance to remove details in a schedule that had to be amorously nurtured during months. It requires a lot of explanation, drive and time from the Project Manager to do this exercise properly, which therefore too often does not happen.

Main issues in Integrated Project Schedules: Detail Level and Balance Between Functions

Level of detail

Throughout our consulting assignments on Large, Complex Projects in execution phase we've encountered too often an astonishing phenomenon: excessively detailed Integrated Project Schedules, impeding proper update, control and decision-making in the Project. Planning must be done properly so as to enable to identify Project drivers. At the same time it must keep agility and reactivity intact as unexpected events will always happen during Project execution.

It is extremely important to optimize the detail level for Project planning between two extremes which are equally damaging for Project success.

Balance between functions

We also encounter very often Integrated Project Schedules that are very unbalanced between trades/functions. It generally reflects either:

- The history of the organization and/or its traditional focus,
- The comfort zone of the planner who will tend to spend time and detail excessively that section of the schedule that is the most familiar to him/her,

Such an imbalance is a problem. Because some functions are excessively detailed, while some others are scarcely represented, the linkages between functions will be incorrect and inconsistent, and the flow of activities required for the production of a particular piece of scope will be inadequate for piloting purposes.

A good Integrated Project Schedule is balanced between the different functions to guarantee the consistency of the linkages.

The Integrated Project Schedule shall first and foremost be a tool for the Project team decision making

Conclusion: Take the Time to Devise a Proper, Usable Integrated Project Schedule

Project managers and their teams have all sort of excuses about not having the time to lead a proper review and development of their Project's Integrated Project Schedule. It is true that at the onset of Project execution the amount of tasks to be done is daunting.

At the same time, would you sail for a long voyage without a proper map that would serve you

to take navigation decisions?

Producing a useful Integrated Project Schedule is arguably the most rewarding investment that can be done at the start of Project execution. The investment will redeem itself through proper positioning and relevant decision-making throughout the Project life.

Take the time to devise a proper Integrated Project Schedule. Do it as a team with representatives from all functions, aiming at the Project purpose and goals. It is really worth it.

Associated White Papers

How too much Detailed Planning often Kills Project Success (Why the Budgeting Plan Cannot be Used for Project Execution)
[2012-28]

Find all these principles of Advanced Scheduling exposed in a comprehensive manner in our Handbook, Advanced Project Scheduling for Project Managers (2nd edition available in [Paperback](#) and [Kindle](#) versions!)



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