The "Top Ten" Tips
for New Microsoft Project Users

Michael A. Steinberg, PMP, Senior Project Management Consultant, Project Assistants, Inc.
(MPA member, Atlanta, GA)

It seems that everyone today has a "Top 10 List". So why would we want to have one for Microsoft Project? Well, think about these questions:

- How many of you have had formal training in Project before or soon after you started to use it?

- How many of you felt frustrated with Project not behaving like you expect it to?

- How many of you are able to get the tool to do what you want every time?

In my experience training, mentoring and consulting with users of the tool, I have found very few people who can answer positively to all of the questions above. But, I have found that with the proper training, and understanding of a few simple rules that govern the tool's behavior, users' frustration levels can be drastically reduced.

In the training courses offered by Project Assistants[1], we demonstrate how to apply those rules so that the tool becomes the project manager's friend rather than a source of frustration. This article is by no means intended to replace formal training, but it can be used as a refresher, a reference, and a set of guidelines.

So, here is my *"top ten"* (actually twelve) list of tips, guidelines, or "rules" for understanding how Microsoft Project operates.

1. It's not a spreadsheet

This may seem obvious, but it's worth a mention. A new user may look at the grid-like layout of the default "Gantt Chart" view and assume that because it looks like a spreadsheet that it also behaves like a spreadsheet. They quickly discover that the tool automatically performs some scheduling functions, like, for example, changing start and finish dates. Not understanding how or why it does this, they quickly become intimidated and abandon the tool. The bottom line: Project is a scheduling tool. Scheduling tools will change dates!

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[1] *Thanks to Dr. Fred Oettle, Director of Training at Project Assistants, for articulating these concepts in our training.*

2. Know the "Basic Scheduling Formula"

$$Duration = \frac{Work}{Units}$$

Understanding of the meaning of these three terms (See Project *Help*), as well as the formula itself, is key to understanding how Project schedules a task. To anyone who has changed any of these three parameters on a task, without understanding this formula, the changes that Project makes to the other parameter(s) can sometimes seem totally unexpected or bizarre.

In my experience, not knowing this formula is the biggest cause of frustration that people experience with the tool. Knowing the formula will not stop Project from doing things that you don't expect, but it *will* allow you to know what changes to make so that it will do what you want.

3. Use Task Types correctly

What will Project do when you change either work, duration or units on a task – that is, which of the others will it change and which will it keep constant? The Task Type parameter is what tells Project how to behave. The general rule is:

If work, units or duration is fixed and you change one of the others, Project will recalculate the third, but wont change the one that's "fixed".

Even if you don't set task type explicitly, each task defaults to one of the three – and the system default is "Fixed Units". This can cause problems in many cases, because since most technical tasks are driven by the amount of work effort required, they should generally be "fixed work".

4. Estimate work, rather than duration

As mentioned in the previous tip, most technical tasks are driven by the amount of work effort, not by duration. Therefore, it is a good practice to estimate how much heads-down work effort a task is likely to need, and estimate the number (or fractions) of resources (which is the definition of units), and let the tool calculate duration.

Duration is dependent on many things – not only work effort and assignment units, but calendars, task splits and a number of other factors. Often, when we estimate duration first, we are really applying the basic

scheduling formula (Tip number 2) in our heads. Why not let the tool do the math!

5. Understand "Effort Driven"

If a task is effort driven, the total task work will remain the same if you add or remove resources. If you add a resource, the total amount of work effort will be divided among all of the resources, including the new ones, thereby reducing duration.

A good practice when adding resources to a task, even if you do understand this concept, is to *explicitly* specify the work and units for each assignment, so you remain in control of the division of labor. Do this in a usage view or the bottom half of a split-screen view.

6. Don't assign everyone at 100%

When you assign a resource to a task, the default level of "assignment units" is 100%. This means that the resource will be assigned full time on that task for its entire duration! Is that what you always want? Probably not, but it is easy to fall into that trap. This will result in a serious distortion of their true allocation. Be especially careful when people are assigned to concurrent (parallel) tasks. Be sure not to assign them full time in these cases.

7. Minimize constraints

Constraints, such as "*Start no earlier than*", or "*Finish no later than*", are really telling Project not to schedule a particular task. Sure, there are legitimate uses for them, such as a dependency on a truly external event. However, the best practice is to estimate each task and its dependencies, and let Project adjust the schedule. This is called "Dynamic Scheduling".

Hard (or "inflexible") constraints such as "*Finish no later than*", should be avoided if possible. Hard constraints can cause scheduling conflicts, where Project may be forced to choose to ignore either a constraint or a dependency – again, a situation where you are tying one hand behind its back.

"What if my sponsor mandates an end date?" you say. Use deadlines instead. Deadlines will flag a missed milestone but will not disable scheduling of the task.

One note about constraints: When you manually key in a start date, you are effectively setting a "*Start no earlier than*" constraint.   That is why project sometimes ignores a date that you type in.

8. Avoid estimating Percent Complete

Estimating percent complete is not a best practice for many reasons, not the least of which is its vulnerability to abuse. A better practice is to ask a resource (or manager) to report actual work and to estimate remaining work, and let the tool calculate percent

work complete. (In fact, when we estimate percent complete, aren't we really mentally estimating those two amounts and doing the math in our heads?)

Another note: In Project, the *"% Complete"* field really means *"% duration complete"*, as distinguished from the *"% work complete"* field. Make sure you understand the difference and which you want to use.

9. Heed the Planning Wizard

Yes, those annoying messages like "This action will cause a scheduling conflict…" are really your friend. They warn you of potential problems, like the one described in the previous tip.   Deal with them immediately, because their consequences may become more difficult to trace back to their root causes when they are no longer fresh in your mind.

10. Leveling is not a magic bullet

As anyone who has used automatic leveling knows, there is really no magic to it. It simply delays the start (or continuation) of tasks in your schedule until resources are no longer overallocated. This is not always practical.

The best practice is to use some thought when first assigning resources to tasks. For example, don't assign the same person full time to two tasks at the same time. If you are careful, leveling can work for you. If you are not, it is sure to make things worse!

11. Tools do not replace communication

With all of the collaboration tools in the Enterprise Project Management (EPM) environment, like notifications and SharePoint, one might be tempted to think the tool can communicate for us. *Wrong!* Ninety percent of a project manager's job is interpersonal communication.   EPM tools will facilitate communication and relieve us of some of the more mundane tasks so we can spend more time communicating – but it won't replace it.

12. Tool expertise will not make you a good project manager

This point expands on the previous tip. Microsoft Project is a great scheduling tool. But that's all it is. PMI® identifies 44 processes that a project manager performs. Project really only supports a handful of those processes. As they say, "a PM tool makes a good manager better faster and a bad manager worse faster." Microsoft Project will facilitate some of our more routine scheduling tasks, so that we can devote the bulk of our time truly *managing* our projects.