Project Management (Part 9) - Taking Your Project Management to the Next Level

An Online Continuing Education Course for Engineers

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Module 1

Using Technology to Enhance Project Planning and Management

In This Module

- Recognizing software's role in project planning and control
- Supporting project management with social media

A major part of project management is information — getting it, storing it, analyzing it, and sharing it. But the key to successful project management is using this information to guide and encourage people's performance.

Today's technology provides easier and more affordable ways to handle information. For example, computer software allows you to enter, store, and analyze information and then present the results in professional formats. In addition, different types of social media provide vehicles for quickly sharing project information with a wide range of audiences. However, technology alone can't ensure focused and committed team performance. In fact, if not used appropriately, excessive reliance on today's technology can actually result in decreased morale, confused and disorganized team members, and reduced performance.

In this module, I explore the different types of software that are available and how they can help you plan and manage your projects more effectively. I also discuss the different types of social media currently in the marketplace, review their benefits and drawbacks, and suggest how you might use them to support your project planning and management.

Using Computer Software Effectively

Warning

Today's software for special analyses and reporting looks so good that you may be tempted to believe it's all you need to ensure your project's success. However, even though the software works effectively and efficiently, it *can't* perform the following essential tasks:

- ✓ **Ensure that information is appropriately defined, timely, and accurate.** In most instances, people record information to support project planning and control, and then they enter the info into a computer. You can program the software to check for correctness of format or internal consistency, but the software can't ensure the quality and integrity of the data.

  Suppose you use a computer program to maintain records of labor hours that team members charge to your project. You can program the computer to reject hours that are inadvertently charged with an invalid project code. However, you can't program the computer to recognize hours charged to the wrong project with a valid code.
- ✓ **Make decisions.** Software can help you objectively determine the results of several possible courses of action. However, software can't effectively take into account all the

objective and subjective considerations that you must weigh before making a final decision.

- ✓ **Create and sustain dynamic interpersonal relationships.** Despite people's fascination with chat rooms, e-mail, and other types of computer-aided communication, computers don't foster close, trusting relationships between people. If anything, technology makes relationships more difficult to develop because it removes your ability to see facial expressions and body language.

So how *can* computer software help you during the life of a project? This section looks at what different types of software are available, how software can help you manage your project, and how to introduce software into your work environment.

Looking at your software options

When your project is sufficiently complex, you can use software for a wide variety of tasks, including storing and retrieving important information, analyzing and updating that information, and preparing presentations and reports that describe the information and results of the analyses.

The available software falls into two categories: stand-alone specialty software and integrated project-management software. Each type has benefits and drawbacks, as I discuss in the following sections.

Stand-alone specialty software

Stand-alone specialty software consists of separate packages that perform one or two functions very well. The following types of specialized software can support your project planning and performance:

- ✓ **Word processing:** Useful for preparing the narrative portions of project plans, maintaining a project log, creating progress reports, and preparing written project communications (Microsoft Office Word, for example)
- ✓ **Business graphics and presentation:** Useful for preparing overheads and slide shows for project presentations and developing charts and artwork for written reports and publications (Microsoft Office PowerPoint, for example)
- ✓ **Spreadsheet:** Useful for storing moderate amounts of data, performing repetitive calculations, running statistical analyses, and presenting information in chart formats (Microsoft Office Excel, for example)
- ✓ **Database:** Useful for storing and retrieving large amounts of data for analysis and presentation (Microsoft Office Access, for example)
- ✓ **Accounting:** Useful for keeping records of project income and expenses and producing a variety of descriptive and comparative reports (Intuit QuickBooks, for example)
- ✓ **Time and information management:** Useful for scheduling your calendar, maintaining a to-do list, keeping your address book, and managing your e-mail activities (Microsoft Office Outlook, for example)

Note: Many manufacturers offer software packages in the preceding categories. However, because so many of the organizations I've worked with use Microsoft software, I've noted examples of Microsoft software packages in the different categories. You may have heard of them before, and if you don't have them already, you can easily install them on your computer.

Tip

Initially, specialty packages performed one or two functions very well. As they've evolved, however, they've expanded to include capabilities that support their primary functions. For example,

- ✓ Word-processing packages now possess some spreadsheet, business-graphics, and database capabilities.
- ✓ Spreadsheet packages now have some business-graphics and word-processing capabilities.
- ✓ Database packages now have some spreadsheet and word-processing capabilities.

In general, specialty packages offer the following benefits:

- ✓ **They offer powerful capabilities in their areas of specialty.** For example, a business-graphics-and-presentation package makes it relatively easy to prepare professional-quality presentations that effectively share information and stimulate your audience's interest.
- ✓ **You most likely have several packages already on your computer.** Having these packages already available means you can use them immediately for no additional cost.
- ✓ **People probably know how to use many of the common specialty packages.** As a result, people are more apt to use them and use them correctly. Also, you save time and money because people don't require special training to use them.

Warning

Keep in mind that specialty packages have the following potential drawbacks:

- ✓ **They're likely to encourage piecemeal approaches to project planning and control, which may omit certain key steps.** You can use a business-graphics package to draw a Gantt chart. However, ensuring that your schedule is feasible requires you to consider the effect of activity interdependencies when you prepare it. A business-graphics package can't perform that function for you.
- ✓ **They don't integrate easily.** For example, you can depict your project's schedule in a Gantt chart in a graphics package and display personnel hours over the duration of each task in a spreadsheet. However, if a team member is unexpectedly out for a week, you have to make separate changes by revising the person's hours in the spreadsheet and then changing the Gantt chart in the graphics package to reflect new activity start and end dates. Even though some programs can share data directly with other programs, this process is often cumbersome.

Integrated project-management software

Integrated project-management software combines database, spreadsheet, graphics, and word-processing capabilities to support many of the activities normally associated with planning and performing your project. An example of an integrated package is Microsoft Office Project, although hundreds of such packages of all shapes and sizes are on the market today.

A typical integrated project-management package allows you to

- ✓ Create a hierarchical list of activities and their components.
- ✓ Define and store key information about your project, activities, and resources.
- ✓ Define activity interdependencies.
- ✓ Develop schedules by considering activity durations, activity interdependencies, and resource requirements and availability.
- ✓ Display your plan for performing project activities in a network diagram.
- ✓ Display a schedule in Gantt chart and table formats.
- ✓ Assign people to work on project activities for specific levels of effort at certain times.
- ✓ Schedule other resources for project activities at specified times.

- ✓ Determine your overall project budget.
- ✓ Determine the effect of changes on the project's schedule and resources.
- ✓ Monitor activity start and end dates and milestone dates.
- ✓ Monitor person-hours and resource costs.
- ✓ Present planning and tracking information in a wide array of graphs and tables.
- ✓ Permit project teams to collaborate and access project information from anywhere day or night.

As you may have guessed, integrated project-management packages offer benefits as well as drawbacks. The benefits include the following:

- ✓ **The package's functions are li** For example, if ersonnel requirements one time, the program consid nd resource budgets and when reporting pr
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- ✓ **Yo ers' general comfort and familiarity with co are:** Will they take the time and effort to learn and then use the pac ge. Having a package with state-of-the-art analysis and reporting capabilities is no help if people don't know how to use it.
- ✓ **Your organization's present software:** If several software packages are equal in most aspects, choose a package that's already available and in use because team members most likely have experience with it.
- ✓ **Your organization's existing systems to record labor hours and expenses:** If your organization has such systems, consider a package that can easily interface with them. If the organization doesn't have these systems, consider a package that can store the information you need.
- ✓ **The project environment in your organization:** What's the size of the human-resource pool for projects, the number and typical size of projects, and so on? Choose a package that has the necessary capacity and speed.