

**18BIT65S - Software Project Management**  
**III Bsc. IT**  
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**UNIT III:** Building the project Plan: Project Plan Documents-Creating the Project Scope Management Plan – Defining the Project Schedule Management Plan-Creating the Project Cost Management Plan – Planning for Project Quality-Preparing for Managing a Project Team. Organizing a Project Team: Assessing Internal skills–Creating a Team –Interviewing Potential Team Members–Managing Team Issues–Using External Resources.

**TEXTBOOK**

1. Joseph Philips, “IT Project Management”, Third edition, TMH, New Delhi, 2012.

**REFERENCE BOOKS**

1. Mike Cottrell and Bob Hughes, Rajib Mall, “Software Project Management–Inclination”, Fifth Edition, TMH, 2011.
2. Walker Royce, “Software Project Management”, Pearson education, 2000.

**3. Building the Project Plans**

Depending on the size of your project, your project plans will vary. The project plan is not one big plan, but rather a collection of plans that detail how different conditions, scenarios, and actions will be managed. It is a formal document that is reviewed and, hopefully, approved by management. The project plan is not a novel that tells the story of how the project will move along, but rather a guide that allows for changes to the project plan as more details become available. While the project plan may evolve, there are some elements within the project that generally do not change—or are protected from change.

Once the project scope statement has been agreed upon, your change control system protects it. Other elements of the project plan that should be immune from change are the project charter and the performance baselines. The project charter authorizes the project. It is a formal document that allows the project manager to manage the project work, resources, and schedule to deliver on the project scope. Performance baselines are time, cost, and scope objectives that the project manager must meet within the project delivery. These baselines rarely change, as they reflect the scope of the project.

**3.1 Project Plan Documents**

When you and your project team create the elements of the project plan, you can start from scratch and build your plan or you can rely on historical information to lend a hand. Many times project managers will find that their projects are similar, or even identical, to past projects they’ve completed. Rather than reinventing the project management wheel, they’ll rely on past project plans to serve as templates for their current projects. There’s nothing wrong with this approach at all—it’s just working smart, not hard. Of course, when you use older plans as templates, you’ll update the older plans to reflect your current project. Regardless of which approach you take to building your project plan, there are some common project management documents you should include in your comprehensive plan:

- **Project charter** This document comes from someone in a supervisory position that is higher in the organizational chart than the immediate management of the project team. This document authorizes the project.
- **Scope baseline** The project scope baseline is actually a combination of three documents: the project scope statement, the work breakdown structure (WBS), and the WBS dictionary. The scope baseline is used throughout the project when there are questions about the project

requirements, execution concerns, risk management, cost estimating, issues, and other project management activities.

- **Time and cost estimates for each work package** Recall that time and cost estimates reflect the labor and materials needed to deliver the project.
- **Performance measurement baselines:** The baselines are boundaries or target the project manager and the project team is expected to perform within.
- **Milestones and target dates for the milestones** Within your project, there should be easily identified milestones that signal you are moving toward project completion. Associated with these major milestones are some target dates that you and management agree on. This allows you and management to plan on resource utilization, consider adjunct processes within your business, and keep all stakeholders communicated of where the project should be heading—and when.
- **Resource requirements** Resources are people, materials, tools, equipment, facilities, and services that you'll need to get your project done. There may be portions of your project plan that require procured resources or temporary specialized resources to complete a portion of the project work. The required personnel, materials, and services should be identified, their availability determined, and their associated costs documented.
- **Issue log** Issues are decisions that have not yet been determined but need to be determined by a given date or they'll become risks to the project's success. Issues are documented in the issue log, a risk owner is assigned to investigate the risk, and a deadline for a decision is attached to each issue. There will often be open issues and pending decisions as the plan is first created. This section of the plan identifies and documents the issues to be determined and allows the project to continue.
- **Assumptions log** An assumption is anything that you believe to be true but haven't yet proved to be true. In IT, you often have to make assumptions in your planning: the software and hardware will work together, the new hardware drivers will work with the existing operating system, the learning curve of the software isn't too drastic, and more. When you complete risk management planning, you'll test these assumptions to prove your theories true or false.
- **Quality requirements** Quality is an esoteric thing—what's fast, good, and super to you may not be fast, good, or super to me. To have quality in an IT project, you must define the quality metrics, provide quantitative measurements that will equate to quality, and explain to the project stakeholders what the measurements mean and how they'll map to the requirements for quality acceptance within the project. Your organization may also subscribe to quality programs, such as Six Sigma or ISO programs. You'll need to include the project requirements for quality in these management-driven programs.
- **Calendars** Your project management plan needs two calendars: a resource calendar and a project calendar. The resource calendar defines when the project resources are needed, when the resources are available, and when the resources will be utilized in your project.
- **Stakeholder management strategy** Your project will likely have negative, neutral, and positive stakeholders.
- **Supporting details** The supporting details are any relevant documentation that influenced your project decisions, any technical documentation, and any relevant standards the project will operate under.

### 3.2 Creating the Project Scope Management Plan

The *project scope management plan* defines how the project scope will be defined by the project management team in terms of the project requirements, how the scope will be monitored and controlled throughout the project, and how the scope will be verified by the project customers. The

project scope is all of the required work for the project to be considered complete, and it's based on the requirements of the project stakeholders. Things that are in scope, the requirements and benefits of the project, are what this project plan focuses on. It also defines, in the project scope statement, the things that are considered out of scope. This plan directs your creation of the project scope statement, the WBS, and the WBS dictionary.

Generally, change requests are needed for the project scope for four reasons:

- **Errors and omissions**
- **Value-added changes**
- **External events**
- **Risk events**

Once the scope change request has been documented, it enters the scope change control system. Technically, as you can see in Figure there are four change control systems: scope, schedule, costs, and contract.

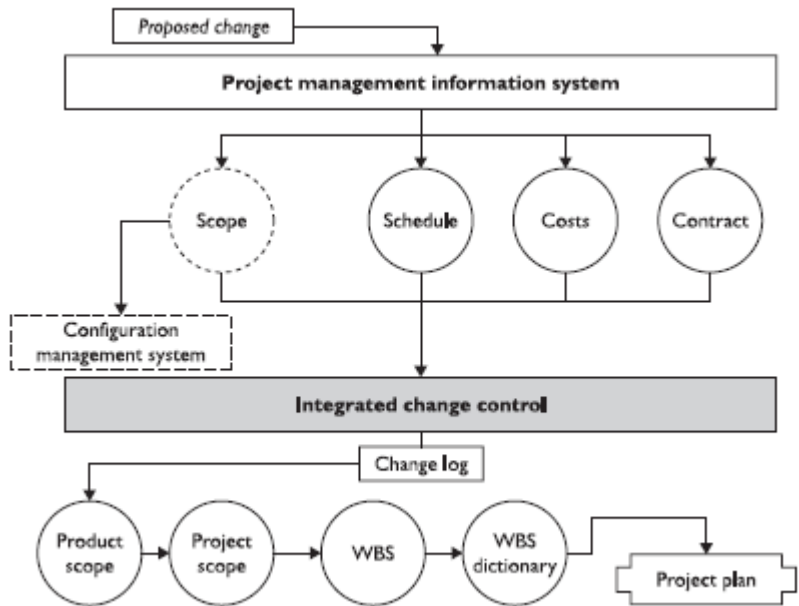


Figure 1 : An approved change request has an effect on the entire project.

Scope change requests pass through the *configuration management system*, which examines the scope change request's effect on the features and functions of the project's product. For example, a scope change request could be to add reporting features to a piece of software. The reporting features would affect the features and functions of the project's product, so their changes would be evaluated, weighed for their value, and then documented as part of the product scope if they were approved.

All change requests, scope or otherwise, pass through *integrated change control* to assess the effect of the change on the entire project. A scope change request could affect the project costs, schedule, quality, human resources, communications, risk, and even procurement. Integrated change control is the requirement that a proposed change request be examined for its true impact on the project. Once the change request is determined to be accepted or rejected, the result is communicated to the appropriate stakeholders and documented in the change log. Yes, even changes that aren't approved go into the change log as a record of what happened to the change and why it was rejected.

A change to the project scope can affect the product scope statement, the project scope, the WBS, and the WBS dictionary; it can even have ripples into the project plan. All of these documents and affected plans need to be updated to reflect the approved change. When a change enters the project scope and it's approved, then you'll also need the time and monies to reflect the approved change.

The physical work of the project and the results of project execution are also affected by this scope management plan. The work results must be examined by the project stakeholders to verify that the results are acceptable to them. This examination is called *scope verification*, and the project's scope management plan defines when and how the verification will happen.

Scope verification usually happens at the end of project phases and always at the end of the project. The goal of scope verification is for the project customer to accept the things that the project team has created. Scope verification is an inspection-driven process that the customers, key stakeholders, or project champions do with the project team and project manager. If there are mistakes or errors in the inspection, the project manager can create a "punch list" of things that must be corrected before the project deliverables are accepted by the project customer.

### **3.3 Defining the Project Schedule Management Plan**

Your project must have a definite set of deliverables that mark its end. Projects also require a finish date. Some projects' finish dates are a touch more firm than others.

For example, the Y2K bug most companies worried themselves over in 1999 had an inflexible deadline. Or consider a project that management says must be completed before a peak business period. Other projects, such as the release of a new e-mail program within an organization, can have a tendency to go on forever and evolve into runaway projects.

Runaway projects stem from a loosely guarded project scope, poor planning, and lack of research. Of course, the longer a project takes to produce its deliverables, the more the project will cost. In addition, to make it personal, a missed deadline can impact bonuses, incentives, and raises for project managers and team members. The best way to reach a target date for completion is to plan, plan, and plan. And then analyze the plan. And then adjust and readjust the plan until it is acceptable and the team is ready to implement the technology. The *project schedule management plan* defines several things for the project manager and the project team:

- What the project activities are that need to be completed
- How long the project activities will take to complete
- When the project activities will need to happen and in what order
- What resources are needed for the project activities and when the resources will be needed
- How the project schedule can be adjusted, compressed, analyzed, or manipulated for the best possible outcome for the project
- How the schedule will be monitored and controlled

A project schedule should be a reflection of the WBS, the accumulation of all of the work packages within the project, and the assignment of resources for each task.

Assign tasks to be completed in units of time rather than by specific dates. During project planning, you'll create the WBS based on the project scope. Once the WBS has been created, the activity list can then be entered into Microsoft Project, or your favorite project management information systems (PMIS) software. Once you enter the activities into Microsoft Project, you can create a Gantt chart like the one in the following figure. It shows a mapping of each of the units of work required to complete each phase of the project.

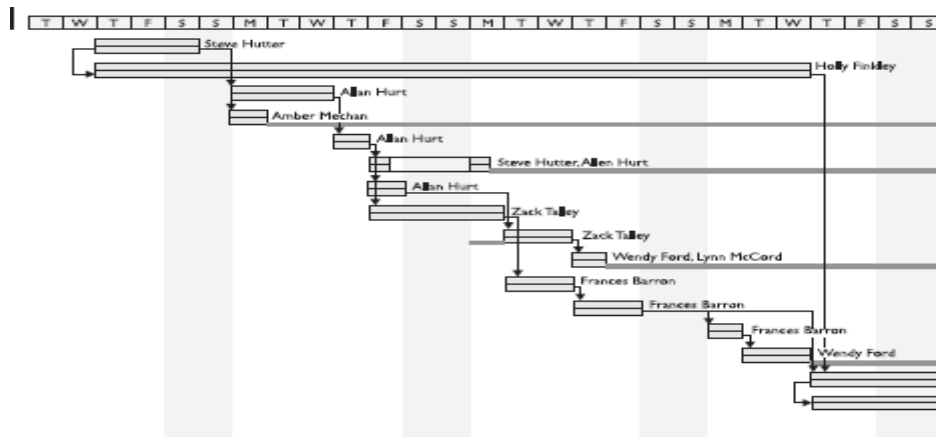


Figure 2 :A Gantt chart maps activities to a project calendar

The Gantt chart is ideal for simple, short-term projects. It is a timeline of the events with consideration given to tasks that can be completed concurrently within a project’s life span. Traditional Gantt charts have some drawbacks:

- Gantt charts do not display detailed information on each work unit.  
(Microsoft Project does allow project managers to add task information and notes within a Gantt chart on each task.)
- Gantt charts display only the order of tasks.
- Gantt charts do not clearly reflect the order of tasks in multiple phases.
- Gantt charts do not reflect the shortest path to completion.
- Gantt charts do not reflect the best usage of resources.

To address these issues, project managers can use a project network diagram (PND). PNDs are a fluid mapping of the work to be completed. Incidentally, the terms “PND,” “project network diagram,” and “network diagram” all refer to the same workflow structure, such diagrams allow the project manager and the project team to tinker with the relationships between tasks and create alternative solutions to increase productivity, profitability, and the control of a project.

A PND visualizes the flow of work from conception to completion. Network diagrams provide detailed information on work units and allow project managers to analyze tasks, resources, and the allotted time for each task. You can use a PND to determine the flow of work to predict the earliest completion date. Network diagrams are ideal for these situations:

- Detailed project planning
- Implementation tracking
- Contingency plans
- Resource control

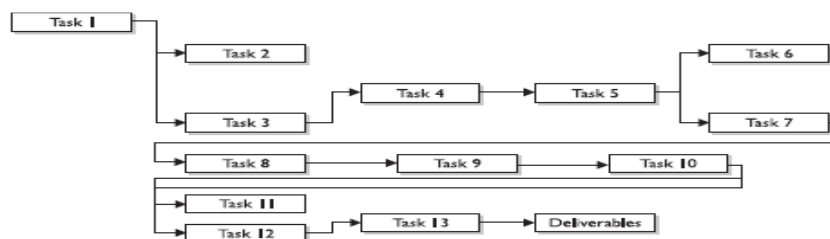


Figure 3 : Sample of Network diagrams demonstrate the relationship between tasks

### 3.4 Creating the Project Cost Management Plan

The *project cost management plan* defines how the project will be estimated and budgeted and how the costs will be controlled. You need to plan specifically for project costs, but you need other project management plans in order to plan effectively for project costs. The first portion of the project cost management plan should define how you'll complete project cost estimating. In your organization, you may have some specific rules about cost estimating, metrics you're required to use, and even a chart of accounts that defines standardized costs for certain types of project work. These organizational requirements that control how and what you plan are called *enterprise environmental factors*. Always follow the rules and policies of your organization when it comes to planning and estimating for costs.

In order to create accurate cost estimates, you'll need six things:

- Project scope baseline
- Project schedule
- Human resource plan
- Risk register
- Enterprise environmental factors
- Organizational process assets

Cost budgeting, the second process that the cost management plan defines, is the aggregation of the costs of each work package in your project's WBS. It is the sum of all the costs the project will incur and is put into an authorized budget so that the project can execute the fully composed project management plan.

One of the most important parts of the project cost management plan is how the project costs will be controlled and monitored. The project manager has the responsibility of tracking project costs for all areas of the project scope that have a cost factor. There must be cost reconciliation between what the project manager says the project will cost and what the project actually costs in execution. Monitoring and controlling of the project costs uses several approaches:

- Leading the team to do the work properly the first time to avoid cost overruns
- Thoroughly investigating the true costs of change requests
- Tracking costs to project deliverables against the total costs of the project by phase and overall project costs
- Measuring project performance against the costs of the project to reach said performance
- Stopping unapproved changes of all sorts from entering the project
- Making corrective actions to bring cost overruns back into alignment with the project cost baseline as much as possible

### 3.5 Planning for Project Quality

Ask ten people what they think quality is, and you'll probably get ten different answers. *Quality*, when it comes to project management, is the entire project and how the project satisfies the stated and implied requirements of the project scope.

Quality is creating for the project customer exactly what was promised in a way that's cost and time effective. Quality is more than just balancing the scope, time, and cost of a project, however—it's a fitness for use and a conformance to project requirements.

In project management, you achieve quality by planning quality into the project—not inspecting the results of the sloppy work and then fixing problems later. It's always more cost effective to do the work properly the first time.

The *quality management plan* defines what quality is for your project, how you'll plan for quality, and then how you'll inspect the project work to ensure that quality exists within the project

deliverables. The first step in planning for quality is to understand what the project customers want—this means you'll refer back to the scope baseline. By understanding what is expected of the project in exact terms, you can plan to achieve the expectations in exact deliverables.

When you begin to plan for project quality, you'll start with the requirements of the project, then you'll need to address quality assurance. Quality assurance is an organization-wide quality policy or program that your organization subscribes to. Quality assurance examines the quality requirements of the project, inspects the results of quality control, and ensures that the project is using the correct quality standards and terminology in the project.

Along with your quality management plan, you may also create or adapt a process improvement plan. The *process improvement plan* is a project management plan that defines how the processes within the project can be analyzed for potential improvement.

You can use the process improvement plan to define and analyze several things about your project:

- Process boundaries
- Process configuration identification
- Process metrics
- Targets for improvement

### **3.6 Preparing for Managing a Project Team**

Every organization in the world is unique when it comes to managing employees, the culture of the organization, and how much authority the project manager has over managing her project team. The enterprise environmental factors, the structure of the organization, the policies and guidelines of the organization, and the experience of the project manager all affect how much authority and decision-making ability the project manager has over the project team.

As a project manager, you need to understand how you'll manage the team and still be within your "rights" as a project manager in your company. You don't want to overstep your boundaries, but you'll need to manage your team effectively so that you can get them to complete their assignments as required.

Considering the conditions within your organization, you'll create two plans to address how you'll lead and manage your project team: the human resource plan and the staffing management plan.

The first plan to discuss is the *human resource plan*. This plan defines the needed roles and responsibilities of the project team. A *role* is a definition of a type of team member that does a specific kind of actions, for example, network engineer, application developer, database administrator. Roles are generic descriptions of the project team members, not Jane the network engineer, Tom the application developer, or Ben the database administrator. Attached to the roles are the responsibilities or actions the roles are to fulfill on the project team.

The second plan, the *staffing management plan*, addresses how project team members will be brought on to and released from a project team. It's this plan that is so important in a matrix structure, as you'll need to coordinate timetables with other project managers and the project team members. This plan will address the project calendar—when the project work is expected to take place. It will also address the needed resource calendars—when the project resources are available for project work.

The staffing management plan also includes an assessment of what is needed for team development. This can include training, team activities, and expectations of team leadership roles for senior project team members. You can't expect the project team to complete the project without the appropriate skills to complete the project work. Training is an essential part of the team development, and it's also considered a cost of quality.

The staffing management plan can, and I believe should, include a definition of how a rewards and recognition system works. If your project can reward the project team for a job well done, then the

project team should know the rules, the rewards, and how they can achieve those rewards. Rewards can be financial, time off, contributions to their employee review, or other incentives for each employee. What motivates one employee may not motivate someone else.

As a general rule, you want to shy away from “zero-sum rewards.” These are rewards where only one person can win the award, such as employee of the month. As a side note, you, the project manager, will want to reward the project team with genuine praise when it’s appropriate.

### **3.7. Organizing a Project Team**

As a project manager, you will recruit the die-hard dedicated workers who are genuinely interested in the success of the project. These team members are exciting to be around, as they love to learn, love technology, and work hard for the team and the success of the project. The other type of team members you’ll encounter are nothing less than a pain in the, er, neck. These folks couldn’t care less about the project, the success of the company, or anyone else on the team. Their goal is to complete their required hours, draw a paycheck, and get on with their lives.

The reality is, however, most people want to do a good job. Most team members are generally interested in the success of the project. If you get stuck with one of the rotten apples, there are methods to work with them—and around them.

#### **3.7.1 Assessing Internal Skills**

As a project manager, you must create a method to ascertain the skills of your team. It would, no doubt, be disastrous to your project if you began assigning tasks to team members only to later learn they were not qualified to do the work assigned to them. In some cases, this will be easier to do than others, especially if you’ve worked with the team members before, interviewed the team members, or completed a skills assessment worksheet.

##### **3.7.1.1 Identifying Resource Requirements**

Before you can start building your project team, you need to know what resources you’ll need for the project to be successful. Projects are completed by people, and you’ll need the right people to do the right work to complete the project objectives. Depending on the nature of the project, you’ll probably have a good idea what the project needs in order to be successful. You can, and should, use the project’s scope baseline to help you and the project team identify the types of resources that you need on your project.

By referencing the scope baseline, and in particular the WBS, you can identify the resources you’ll need to complete the work packages within the project. By mapping the resources to the WBS, you can create a resource breakdown structure. A resource breakdown structure illustrates what resources are needed in order to create corresponding deliverables. This can also help when you assign resources to project activities—there may be only so many resources available, so you’ll need to create a project schedule that considers the availability of the project resources to create the identified project deliverables.

##### **3.7.1.2 Experience Is the Best Barometer**

As you gain experience as a project manager, you will learn which people you’d like on your team, you’ll have to learn about the team members, their goals, and their abilities. You must use strategies to recruit and woo knowledgeable and hard-working team members onto your team. This means, of course, you’ll have to do fact-finding missions to gain information on your recruits. As Figure 4 demonstrates, you have available to you many methods to assess internal skills—this is your resource pool.





Figure 4 : Assessing the internal resource pool can help resource identification

Once you’ve started your fact-finding mission, rely on multiple methods to assess internal skills:

- Prior projects
- Organizational knowledge
- Recommendation of management
- Recommendation of team members

### 3.7.1.3 Resumes and Skill Assessments

Another source, if you have access to the document, is the resume for each team member. A resume can quickly sum up the skill set of a team member. You may want the project team to create quick resumes for you in order to learn about the experiences of individual members. Use caution with this approach, however. Resumes have the connotation of getting, or keeping, a job, and your team members may panic. If you want to use this method but are uneasy using the word “resume,” have the team members create a listing of the projects, their skills, and other past accomplishments. This will give you a way to quickly understand the collection of talent and then assign work to the team.

A collection of skills will also allow you to determine if you have the resources to complete the project. For example, if you’re about to create a database that will span eighteen states, with multiple servers, and provide real-time transactions for clients, it’ll be tough to do if none of your team members have worked with relational databases before.

### 3.7.1.4 Create a Roles and Responsibilities Matrix

A *roles and responsibilities matrix* is a method to identify all of the roles within a project and the associated responsibilities to the project work. This matrix is an excellent way to identify the needed roles of the project participants, identify what actions they’ll need in the project, and ultimately determine if you have all of the roles to complete the identified responsibilities. Here’s a quick example of a matrix for a software roll-out project:

	Project Manager	Application Developer	Network Engineer	ZenWorks Expert
Create the application	A	C	P	
Test the application	A	P	P	
Package the application	R		R	P
Test the application release	R	R		C
Push the application to the workstations	A		P	C

Here’s the legend for this matrix:

A = Approves

R = Reviews  
P = Participant  
C = Creator

The roles and responsibilities matrix can help the project manager identify the needed resources to complete the project work—and determine if the resources exist within the organization’s resource pool. Later in the project, the project manager will use an even more precise matrix called the *responsibility assignment matrix (RAM)* to identify which tasks are assigned to which individuals.

Another form of a responsibility assignment matrix is a RACI chart. A RACI chart is similar to the matrix created previously, but it uses the legend of Responsible, Accountable, Consult, and Inform. And that’s why it’s called a RACI chart—the first letter of each responsibility spells RACI.

### **3.7.1.5 Learning Is Hard Work**

Within the IT world, a requirement for certification has become practically mandatory. Certifications such as the PMP, Microsoft Certified Systems Engineer, and Oracle DBA—even industry certifications like CompTIA’s Project+, A+, and Network+—are proof of knowledge in a particular area of technology. Individuals can earn these certifications based on training, experience, or a combination of both. Certifications are certainly a way to demonstrate that professionals have worked with the technology, understand the major concepts, and were able to pass the exam. Certifications do not, however, make the individual a master of all technologies.

Within your team, whether there are certifications or not, you’ll need to assess if the members need additional training to complete the project. Training is always seen as one of two things: an expense or an investment. Training is an expense if the experience does not increase the ability of the team to implement tasks. Training is an investment if the experience greatly increases the ability of the team to complete the project.

When searching for a training provider, consider these questions:

- What is the experience of the trainer?
- Can the trainer customize the class to your project?
- Would hiring a mentor be a better solution than classroom training?
- What materials are included with the class?
- What is the cost of the course?
- Is there an in-house training department that can deliver the training, provide assistance in developing the curriculum in-house, or assist in contracting with an outside trainer?
- Would it be more cost effective to host the training session in-house?
- Are there viable online solutions that can save time and provide value?

These questions will help you determine if training is right for your project team. In some instances, standard introductory courses are fine. Typically, the more customized the project, the more customized the class should be as well. Don’t assume that just because a training center is the biggest, it’s also the best. No matter how luxurious a training room, how delicious the cookies provided, or how slick the brochures are, the success of the class rests on the shoulders of the trainer.

## **3.7.2 Creating a Team**

Being a project manager is as much about being a leader as it is managing tasks, deadlines, and resources. You will, through experience, learn how to recognize the leaders within the team. The easiest way to create teams with this type of worker?. Set the example yourself.

### **3.7.2.1 Defining Project Manager Power**

Project managers have responsibility. And with that responsibility comes power. A project manager does, however, wield a certain amount of power in most organizations. The project team can see this power, correctly or incorrectly, as based on their relationship with you. Their perception of your power—and how you use your project management powers—will influence the project team and how they accomplish their project work. The five types of project manager powers are

- **Expert** The authority of the project manager comes from experience with the technology the project focuses on.
- **Reward/Penalty** The project manager has the authority to give something of value to team members, or to withhold something of value.
- **Formal** The project manager has been assigned by senior management and is in charge of the project. Also known as positional power.
- **Coercive** The project manager has the authority to discipline the project team members. This is also known as “penalty power.” When the team is afraid of the project manager, it’s coercive.
- **Referent** The project team personally knows the project manager. Referent can also mean the project manager refers to the person who assigned him the position—for example, “The CEO assigned me to this position, so we’ll do it this way.” This power can also mean the project team wants to work on the project or with the project manager because of the high priority and impact of the project.

By motivating your team to focus on the project deliverables, you can, like a magician, misdirect their attention from their own agendas to the project’s success. You can spark the creation of a true team by demonstrating how the members are all in this together. How can you do this? How can you motivate your team and change the focus from self-centric to project-centric? Here are some methods:

- *Show the team members what’s in it for them.*
- *Show the team what this project means to the company.*
- *Show the team why this is exciting.*
- *Show the team members their importance.*

### **3.7.2.2 Building Relationships**

When an individual joins your team, you and the individual have a relationship: project manager to team member. Immediately the team member knows his role in the project as a team member, and you know your role in relation to the team member as the project manager.

On all projects, your team will have to work together very quickly. It’s not a bad idea to bring the team together in some type of activity away from the workplace. The following are examples of team-building exercises:

- A bowling excursion
- A hike and overnight stay in the wilds
- A weekend resort meeting to learn about each other and discuss the project
- A trip to your local pool hall for an impromptu round of team pool

### **3.7.3 Interviewing Potential Team Members**

Your goal was to get the job, so you did your homework: you researched the company, investigated the position, made certain your résumé and references were up-to-date, and then gave it your best shot.

Guess what? As a project manager, you may find yourself conducting interviews to woo internal employees onto your project team. Your mission will be twofold: impressing the candidates while at the same time learning about them to see if they are the right fit for your project team.

### **3.7.3.1 Why You Need Interviews**

If you are one of the lucky project managers and you get to hand-pick your project team, you'll need to interview potential project team members. You, or you and the project sponsor, may discuss which employees should be placed on the project and why. The type of work to be completed will serve as your primary guide for the talent needed on the project. You may also need to look for other attributes such as aptitude, track record, and current workload.

An interview will help you ascertain each prospect's level of ability before you invite that person onto the project. Or, supposing the individual has already been assigned to the project, an interview helps you learn about her abilities and how they may contribute to the project.

Interviews for IT projects can be completed formally, with a résumé, or informally, over lunch or coffee. Regardless of how the interview is completed, you'll need to learn if the prospective team member will be able to complete the type of work you have in mind. Which means, of course, that you're looking for a specific type of worker based on your planning?

An interview, even if it's a simple, informal meeting, allows you to discuss the prospective team member's abilities and how they can help on the project, and it gives you an insight into the person's goals, ambitions, and outlook regarding work. Interviews allow project managers to learn about the team members, their assets for the project, and how much of a learning curve may be required if the interviewee is to join the team.

### **3.7.3.2 How to Interview**

Your goal when interviewing potential team members (or team members who have been assigned to your project) is to determine what their role in the implementation may be. Any project is only as good as the people completing the work. Your team will be a direct reflection on your own abilities, so this task is one of the most important you'll have on the entire project. When interviewing potential team members, you'll need a job description for each open team position. A job description is needed for two reasons:

- So that you may share with the prospect what role needs to be filled
- So that you can focus on the attributes of the ideal team member

A job description is more than a title for a role on the team. A job description details the activities of the role, the scope of the position, the responsibilities, and the working requirements of the team member. A job description should be clear, concise, and easily summarized. For example, here is a job description for the role of a team member responsible for creating system policies:

System policies administrator—this team member will be responsible for the creation, testing, and implementation of system policies for several thousand users. The system policies administrator will be responsible for following the IT systems guidelines as assigned by management, updating current logon procedures, managing access to systems through policies, and documenting the various policies created.

The system policies an administrator is responsible for:

- Creation of system policies
- Testing of system policies
- Implementation of system policies
- Following organizational guidelines on security and system access
- Updating logon procedures for users
- Documentation of system policies created

You will also need selection criteria to determine which prospect is the best fit for the team role. The selection criteria will stem from the job description, as they should be a set of requirements that, if

met, indicates the individual would be able to wholly complete the tasks of the job description. Selection criteria can include

- Education
- Knowledge on the tasks
- Experience with the tasks
- Skill sets applicable to the tasks
- Accomplishments within the company
- Other essential qualities such as aptitude, leadership, and the ability to work with others

Many project managers balk at completing interviews. Don't. They are not difficult if you're prepared. Interviews can help you properly assign tasks to team members during resource assignment and scheduling. To prepare for an interview, develop good questions. When interviewing, there are several question types that you should know and use:

- **Closed question** These questions must be answered with a yes or no.
- **Essay questions** These questions allow the candidate to tell you information—and they allow you to listen and observe.
- **Experience questions** These questions focus on the candidate's behavior in past situations, and they allow you to see how a candidate has acted to predict how he may act in future situations that are similar.
- **Reactionary questions** These questions evolve from the candidate's answers.
- **Questions not to ask** Basically, avoid questions that center on child care, marital status, religion, racial background, or physical disability.

Interviews are a great tool for learning about your potential team members. They are also an opportunity for potential team members to learn about you. Invite the candidate to ask you questions about your role on the project and the importance of the project. When conducting an interview, allow the candidate to do most of the talking so that you can do most of the listening.

### 3.7.4 Managing Team Issues

Without a doubt, people will fight. Fortunately, in most offices, people are mature enough to bite their tongues, try to work peacefully, and, as a whole, strive to finish the project happily and effectively together.

Most disagreements in IT project management happen when two or more people feel very passionate about a particular IT topic. For example, one person believes a network should be built in a particular order, while another feels it should be constructed using a different approach. Or two developers on a project get upset with each other about the way an application is created. Generally, both parties in the argument are good people who just feel strongly about a certain methodology of their work.

Unfortunately, you will have to deal with disagreements, troublemakers, and obnoxious people to find a way to resolve differences and keep the project's momentum.

#### 3.7.4.1 Dealing with Team Disagreements

There will be instances when the project team, management, and other stakeholders disagree on the progress, decisions, and proposed solutions within the project. It's essential for the project manager to keep calm, lead, and direct the parties to a sensible solution that's best for the project. Here are seven reasons for conflict in order of most common to least common:

1. Schedules
2. Priorities

3. Resources
4. Technical beliefs
5. Administrative policies and procedures
6. Project costs
7. Personalities

So what's a project manager to do with all the potential for strife in a project?

There are five different approaches to conflict resolution:

- **Problem solving** This approach confronts the problem head-on and is the preferred method of conflict resolution.
- **Forcing** The person with the power makes the decision.
- **Compromising** This approach requires both parties to give up something.
- **Smoothing** Smoothing "smooths" out the conflict by minimizing the perceived size of the problem. It is a temporary solution but can calm team relations and boisterous discussions. Smoothing may be acceptable when time is of the essence or any of the proposed solutions would work. This is considered a lose-lose situation, as no one really wins in the long-term. The project manager can use smoothing to emphasize areas of agreement between the stakeholders in disagreement and minimizes areas of conflict. Use it to maintain relationships and when the issue is not critical.
- **Withdrawal** This is the worst conflict resolution approach, as one side of the argument walks away from the problem

### 3.7.4.2 Phases of Team Development

Teams develop over time—not instantaneously. As a project team comes together, there are likely people on the project team who have worked with one another before, just as there may be people on the project team who have never met. Because projects are temporary, the relationships among project team members are also often viewed as temporary. The project manager can see—and sometimes guide—the natural process of team development.

The goal of team development is not for everyone to like each other, have a good time, and create life-long friendships. All of that is nice, but the real goal is to develop a team that can accurately and effectively complete the project scope. Within team development, there are five stages the project team will pass through:

- **Forming** This stage allows the project team to come together and learn about each other. Project team members feel each other out and find out who's who and what others are like.
- **Storming** This stage promises action. There's a struggle for project team control and momentum of who's going to lead the project team. It is during this phase that people figure out the hierarchy of the team and the informal roles of team members.
- **Norming** Once control on the project team has been established, the project team's focus shifts toward the project work. This is where people learn to work together.
- **Performing** Team members have settled into their roles and focus on completing the project work as a team. During this stage, a synergy is developed; this is the stage where high-performance teams come into play.
- **Adjourning** The project team, like the project, is not a permanent fixture in the organization. At some point, the members of the team disperse onto other projects and join different project teams.

### 3.7.4.3 Project Management Is Not a Democracy

Despite what some feel-good books and inspiring stories would like to have you believe, project management is not a democracy. The success of the project rests on your shoulders, and it is your job to work with your team members to motivate them to finish the project on schedule.

If your team members cannot, or will not, work out a solution among themselves, you'll be forced to make a decision. When you find yourself in this situation, there is an approach to working through the problem.

Here are recommended steps to conflict resolution:

1. **Pay attention** Meet with both parties and explain the purpose of the meeting: to find a solution to the problem.
2. **Listen** Ask the team members what the problem is, allow each to speak their case fully without interrupting, and then ask questions to clarify any of the facts.
3. **Resolve** Often if the meeting takes place with both team members, a resolution will quickly boil to the surface. Chances are that you won't even have to make a decision.
4. **Wait** If this is not the case in your meeting, don't make an immediate decision.
5. **Act** If the team members will not budge on their positions, then you will have to make a decision. And then stick to it. If necessary, gather any additional facts, research, and investigations. Drawing on your evidence, call the team members into a meeting again and acknowledge both of their positions on the problem.

### 3.7.4.4 Dealing with Personalities

In any organization, you'll find many different personality types, so it's likely that there are some people in your organization who just grate on your nerves like fingernails on a chalkboard. These individuals are always happy to share their discontent, their opinion, or their "unique point of view."

Unfortunately, you will have to find a way to work with, or around, these people. Here are some personality types you may encounter and how you can deal with them:

Personality	Attributes	Resolution
The Imaginary Leader	These individuals think they are managing the project this week and will be running the company next week. You know the type, always first to raise their hands in school and remind the teacher if she forgot to assign homework.	These people really do want to lead—they just don't know how! Give them an opportunity by allowing them to conduct an occasional team meeting or organize upcoming activities. If you can, try to show them how to lead with tact instead of with rudeness.
The Mouse	These individuals are afraid of doing any activity on the project without explicit directions from you. They're so afraid they'll make a disastrous mistake, they require your guidance on each part of their work.	Encourage these types to take charge of their duties. Tell them that you have confidence in them to do the tasks that you've assigned to them. If they do make a mistake, work through it with them to build their confidence.
Your Favorite Uncle (or Aunt)	This persona is the office clown. Always playing gags, streaming toilet paper around someone's cubicle, telling jokes, and sharing stories around the office. Not only are these types of people great fun, but they're also great time wasters.	Often these folks don't have enough to do, and so they assume everyone else is under the same workload that they are. Give these people more assignments, and they'll have less time to kill. If that doesn't work, politely share with them that their jovial activities are appreciated, but not always necessary.

Personality	Attributes	Resolution
The Cowboy	These people love excitement. They are happy to try anything out (like rebooting a server mid-morning) just to see what happens. Their experience may be great, but their swagger, ten-gallon hat, and stunts aren't always well thought out.	To deal with the cowboy types, encourage their enthusiasm but discourage their ability to make on-the-spot decisions without thinking about the results of their actions. These individuals are generally smart and eager to help but need a touch more guidance from you.
The Prune	These sourpusses are as much fun as a pocket full of thumbtacks. They don't care about your project, think the technology sucks, and take their hourly breaks every twenty minutes.	Granted, these folks are hard to work with. They've got more problems personally than the project you are managing. You can start by befriending them and then sharing the value of their work on the project with their superiors. This transfers some responsibility of the work onto those prunes. And tell them to smile a little.

### 3.7.5 Use Experience

The final method for resolving disputes among team members may be the most effective: experience. When team members approach you with a problem that they just can't seem to work out between themselves, you have to listen to both sides of the situation.

If you have experience with the problem, then you can make a quick and accurate decision for the team members. But what if you don't have experience with the technology, and your team members have limited exposure to this portion of the work?

How can you make a wise decision based on the information in front of you? You can't! You will need to invent some experience. As with any project, you should have a testing lab to test and retest your design and implementation. Encourage your team members to use the testing lab to try both sides of the equation to see which solution will be the best.

If a testing lab is not available, or the problem won't fit into the scope of the testing lab, rely on someone else's experience. Assign the team members the duty of researching the problem and preparing a solution. They can use books, the Internet, or other professionals who may have encountered a similar problem.

### 3.7.6 Disciplining Team Members

No project manager likes the process of disciplining a team member—at least they shouldn't. Unfortunately, despite your attempts at befriending, explaining the importance of the project, or keeping team members on track, some people just don't, or won't, care. In these instances, you'll have little choice other than to resort to a method of discipline.

Within your organization, you should already have a process for recording and dealing with disciplinary matters. The organizational procedures set by human resources or management should be followed before interjecting your own project team discipline approach. If there is no clear policy on team discipline, you need to discuss the matter with your project sponsor before the project begins. In the matter of disciplinary actions, take great caution—you are dealing with someone's career. At the same time, discipline is required or your own career may be in jeopardy.

As you begin to nudge team members onto the project track, document it. Keep records of instances where they have fallen off schedule, failed to complete tasks, or have done tasks



halfheartedly. This document of activity should have dates and details on each of the incidents, and it doesn't have to be known to anyone but you.

Hopefully, your problematic team members will turn from their wicked ways and take your motivation to do their jobs properly. If not, when a threshold is finally crossed, then you must take action.

### **3.7.6.1 Following an Internal Process**

Within your organization there should be a set process for how an unruly employee is dealt with. For some organizations, there's an escalation of a write-up, a second write-up, a suspension of work, and then ultimately a firing. In other organizations, the disciplinary process is less formal. Whatever the method, you should talk with your project sponsor about the process and involve them in any disciplinary action.

In all instances of disciplinary action, it would be best for you and the employee to have the project sponsor or the employee's immediate manager in the meeting to verify what has occurred. Not only does this protect you from any accusations from the disgruntled team member, it also protects the team member from your disappointment by having a member of management present.

### **3.7.6.2 Removal from a Project**

Depending on each situation, you may discover that the team member cannot complete the tasks required of him on the project, and removal from the project may be the best solution. In other instances, the team member may refuse to complete the work assigned to him for his own reasons and be a detriment to the success of the project. Again, removal from the team may be the most appropriate action.

Removing someone from the project requires tact, care, and planning. A decision should be made between you and the project sponsor. If you feel strongly that this person is not able to complete the tasks assigned to him, rely on your documentation as your guide. Removal of a team member from a project may be harsh, but it's often required if the project is to succeed.

Of course, when you remove someone from the project, you need to address the matter with the team. Again, use tact. A disruption in the team can cause internal rumblings that you may never hear about—especially if the project team member who was removed was everyone's best friend. You will have created an instant us-against-them mentality. In other instances, the removal of a troublemaker may bring cheers and applause. Whatever the reaction, use tact and explain your reasons without embarrassing or slandering the team member who was removed.

## **3.7.6 Using External Resources**

There comes a time for every organization when a project is presented that is so huge, so complex, or so undesirable to complete that it makes perfect sense to outsource the project to someone else. In these instances, no matter the reason the project is being outsourced, it is of utmost importance to find the right team to do the job correctly.

Outsourcing has been the buzz of all industries over the last few years—and certainly IT has been a prevalent reason for companies to “get someone else to do it.” There are plenty of qualified companies in the marketplace that have completed major transitions and implementations of technology—but there are also many incompetents that profess to know what they're doing only to botch an implementation.

### **3.7.6.1 Finding an Excellent IT Vendor**

Finding a good IT vendor isn't a problem. Finding an excellent IT vendor is the problem. The tricky thing about finally finding excellent vendors is that because they keep so busy (because of their talented crew), they are difficult to schedule time with.

So what makes an excellent vendor? Here are some attributes:

- Ability to complete the project scope on schedule
- Vast experience with the technology to be implemented
- References that demonstrate customer care and satisfaction
- Proof of knowledge on the project team (experience and certifications)
- Adequate time to focus on your project
- A genuine interest in the success of your organization
- A genuine interest in the success of your project
- A fair price for completing the work

Finding an excellent vendor to serve as your project team, or to be integrated into your project team, is no easy task. Remember, the success of a project is only as good as the people on the project team. It's not just the name of the integrator, but the quality of the individuals on the integrator's implementation team that make the integrator great. Never forget that fact. Figure 5 demonstrates how a vendor can be integrated as your project team. Often, the success of the project is dependent on the vendor's implementation. When the vendor has completed their work, the buyer needs to complete the contract and pay the vendor according to the terms of the contract. The project manager should oversee the process as a contract that is binding for both parties—seller and buyer.



Figure 5 : Vendors need to adhere to the terms of the contract and support the project vision.

To begin finding your integrator, you can use several different methods:

- **References** Word of mouth from other project teams within your organization, contacts within your industry, or even family and friends are often the best way to find a superb integrator. A reference does something most brochures and sales letters cannot: it comes from a personal contact and lends credibility.
- **Internet** If you know the technology you are to be implementing, hop on the Internet and see who the manufacturer of the technology recommends. Once you've found integrators within your community, peruse their web sites. Use advanced searches to look for revealing information about them on other web sites, in social media, or in newspapers and trade magazines. Know who you are considering working with before they know you.
- **Yellow pages** When all else fails, open the phone book and call and interview the prospective team over the phone. Prepare a list of specific questions that you'll need answered. Pay attention to how the phone is answered, what noise is in the background, and how professional and organized the individual on the phone is. Are they rude? Are they happy to help? Take notes and let the other person do much of the talking.
- **Trade shows** If you know your project is going to take place in a few months, attend some trade shows and get acquainted with some potential vendors. Watch how their salespeople act.

Ask them brief questions on what their team has been doing. Collect their materials and file them away for future review.

- **Previous experience** Never ignore a proven track record with a vendor. Past performance is always a sure sign of how the vendor will act with your project.

### 3.7.6.2 Interviewing the Vendor

Once you've narrowed your search to two or three vendors, it's time to interview each one to see to whom the project will be awarded. In the interview process, which the vendor will probably consider a sales call, remind yourself that this is a first date—it's a chance to find out more information about the vendor.

Document all parts of the meeting: How difficult was it to arrange a meeting time? How polite was the salesperson? Did the salesperson bring a technical consultant to the meeting? All of these little details will help you make an informed decision. In such meetings, pay attention to several things about vendors' representatives:

- Do they pay attention to details? Are they on time? Dressed professionally and appropriately for your business? Are their shoes shined and professional? How vendors pay attention to the details in their appearance and presentation to win your business will be an indicator of how they will treat you once they've won your business.
- How organized are their materials? When a salesperson opens his briefcase, can he quickly locate sales materials? Are the brochures and materials well prepared and neat, and not wrinkled or dog-eared? Again, this shows attention to detail, something every project requires from the start.
- What is their body language saying? Pay attention to how they are seated, where their hands are, and how animated their answers become. A salesperson should show genuine interest in your project and be excited to chat with you. If they seem bored now, they will likely be bored when you call to discuss concerns down the road.
- What does your gut say? Gut instinct is not used enough. The meeting with the salesperson should leave you with a confident, informed feeling. If your gut tells you something is wrong, then chances are something is. If you're not 100 percent certain, and you probably shouldn't be after one meeting, do more research or ask for another meeting with the project integrators.

### Looking for a STAR

When you are interviewing the potential integrators, you need to ask direct, hard-hitting questions to slice through their sales spiels and get to the heart of the project. One of the best interview techniques, especially when dealing with potential integrators, is the STAR methodology. Figure 6 demonstrates that STAR means Situation, Task, Action, Result.



Figure 6 : STAR is an interview methodology to gauge experience.

When you use the STAR method, you ask a situational question, such as “Can you tell me about a situation where you were implementing a technology for a customer and you went above and beyond

the call of duty?” The vendor should answer with a specific Situation, followed by the Task of the situation, the Action he took to complete the task, and then the Result. If the potential vendor doesn’t complete the STAR, add follow-up questions, such as “How did the situation end?” to allow the vendor to finish the STAR question. This interview process is excellent, as it allows the project manager to discern fact from fiction based on the vendor’s response.

### **After Hiring the Consultant**

Consultants know what they know—and what they do not know can hurt them and your project. In other words, consultants need to learn about your environment, how your standard operating procedures work, whom they should talk to, and so on. Consultants need to know how to get things done within your organization. You cannot throw a consultant into your organization and expect her to have the same level of detail, same level of expertise, and same organizational knowledge that you have. It takes some time and some guidance.

For this reason alone, you should demand and require that the consultant attend project meetings, be located close to the project team, and take an active role in meeting the project team members and stakeholders. Consultants need to get involved in order to be successful and productive. Most consultants and experts, if they are worth anything at all, will be eager to follow these rules and requirements. Often it’s the project manager who wants the consultant to feel comfortable and not get into the mix of things so quickly. This limits the consultant’s ability to contribute.