UNIT-6 Principles of Project Management

Learning Outcomes

By the end of this unit the learner will be able to:

- ✓ Explain what project management means
- ✓ Identify benefits of projects
- ✓ Identify the phases of a project's life cycle
- ✓ identify project planning tools
- ✓ Discuss your project, including goals and vision statements
- ✓ Discuss the components of contingency planning

Unit 6

Principles of Project Management

What is a Project?

If we understand what projects are, hopefully we will be more successful. It's important for us to understand how projects differ from other kinds of work.

A project is an effort that involves a series of activities and resources with the aim of achieving a certain output, considering constraints such as time, quality and cost, which often require changes. Source: Lake (1997)

Projects have a limited duration, while operations are carried out constantly. Projects have well defined start and end dates. When the goals and objectives of a project are accomplished, it is said to have been completed. Sometimes, when it becomes evident that the goals and objectives cannot be accomplished, the project is cancelled and it ends. Operations involve continuous work without an ending date and often the same process is repeated.

A project is considered a success if it meets the expectations of the stakeholders. Stakeholders are people who have something to gain or lose from the project. A stakeholder is a person who sponsors a project and is usually an executive in the organization, who has the power to assign resources and make decisions related to the project. The customer is also a stakeholder, as are contractors and suppliers. The manager of the project, as well as managers from other departments in the organization, is also a stakeholder. It is very important for the project manager to identify all the stakeholders at the very start of the project.

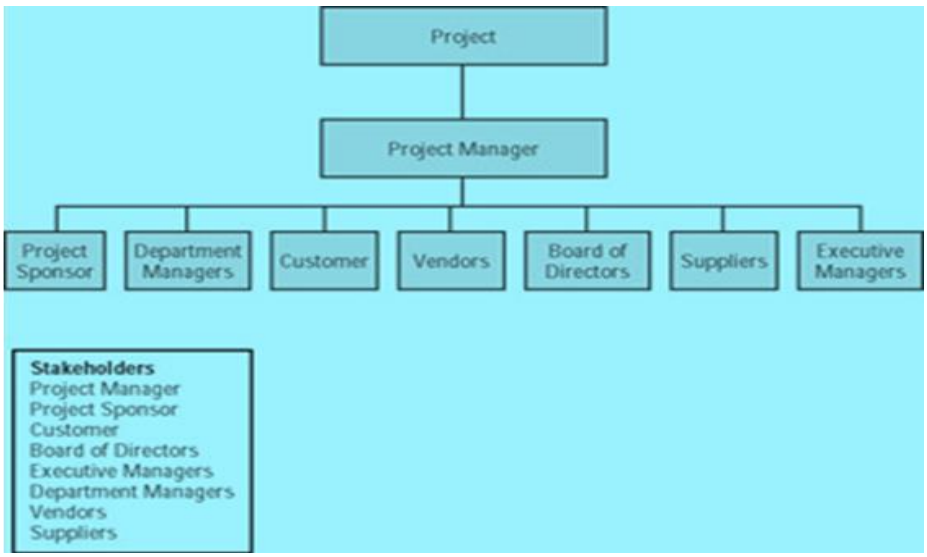

Fig: 6.1

The various stakeholders usually have conflicting interests. The project manager must understand these conflicts and try to resolve them, identifying and meeting with all key stakeholders early in the project to understand all their needs and constraints. When the matter is in doubt, stakeholder conflicts should always be resolved in favour of the customer.

What is Project Management?

A project uses the same skills that are used in everyday life: routine work, planning, working with others, managing different resources, reporting and so on.

It is not desirable to define a project according to its size because this can vary hugely. Some projects take a month or two to complete while others may be completed in years.

Project management is officially defined by the Project Management Institute as "the application of knowledge, skills, tools and techniques to project activities to meet project requirements."

Projects can involve various types of activity. Investigating a particular problem, researching a new product or service, or implementing the results of a previously completed project are some examples of the activities and aims of a project. These activities might be carried out entirely by the organization's own staff, or external consultants might be called in to provide assistance. Several companies may be working together in a group. On the other hand, conventional routine work is a known and recurring task that has no clearly defined end point or deliverables. It is best carried out in a stable environment – mostly within a single function. Calling work 'a project' means that it has a unique outcome, which can be calculated in terms of time, cost and quality. For example, calling the building and launching of London's Millennium Dome a project would be accurate, as would sending a man to the moon. Hence, projects may differ in their relative sizes, but they have a common feature in that they are all a series of activities that are plotted and coordinated in a way that enables clients or sponsors to eventually assess whether or not they have received value for their investment.

A **project** is different from routine work because it is a one-time effort with the aim of changing things in a specific way. Thus, it might be said that creating a new website would be a project, whereas its maintenance and updating would not.

Managing a project may include the following:

- Pointing out the requirements;
- Fulfilling various needs, concerns and expectations of the stakeholders while the project is being planned and carried out;
- Balancing the constraints involved in completing the project, which include (but are not limited to) the following:
  - Budget
  - Scope
  - Quality
  - Schedule
  - Resources

- Risk

Time and **budget** are known terms—for example, a project might be expected to take six weeks and have a budget of £20,000. **Scope** refers to an agreed list of deliverables or features. The scale of the required solution is identified here. For example, creating a new website for the company may be possible to complete in six weeks, but rewriting accounting software may not. **Quality** is 'exactly what it says on the tin', but a project's quality includes not only the quality of the finished product but also the approach. Some industries require particular quality management approaches to be used; for instance, particular international standards have to be met by factories producing automotive parts.

A particular project influences the limitations on which the project manager needs to focus. These factors are related to one another in such a way that, should any one factor change, at least one other factor is likely to be affected. For example, shortening the schedule often results in increased budget, thereby enabling additional resources to be deployed to complete the same amount of work in a shorter time. If the budget cannot be increased, the scope or quality may be reduced.

An even greater challenge is the possibility of project stakeholders having different ideas on which factors are the most important. Challenging the requirements of the project may create additional risks. The project team must have the capability to understand the situation and balance the demands in order that a successful project might be delivered.

Fig 6.2

These four features - time, budget, scope, and quality - are known collectively as the **balance quadrant.** The balance quadrant shows the interrelationship between the four aspects and demonstrates how a change in any one feature will disturb the quadrant. For instance, an increase in the project's scope will have an impact on the time, cost and quality of the project. In reality, any project decision will have an effect on these four aspects.

Project management is therefore a set of skills and tools that help to ensure that the project is satisfactory in every way.

We often discuss project management in terms of several components. If you pick up practically any book on the subject, they usually agree on five process groups:

- Initiating
- Planning
- Executing
- Closing
- Monitoring and Controlling

With the exception of Monitoring and Controlling, all of these processes correspond to the project life cycle, which we will discuss later on. (Controlling takes place during all phases.)

Processes can also be placed into nine knowledge areas:

- Integration
- Scope
- Time
- Cost
- Quality
- Human resources
- Communications
- Risk management
- Procurement

Who Are the Key Players?

There are typically seven key players in a project, although the roles may overlap.

The Sponsor

This person is the most senior team member. They typically initiate the project and provide the authority within the organization.

Their responsibilities can include:

- Representing the interests of the organization, ensuring goals, objectives, and the project itself benefits the company as a whole.
- Providing resources.
- Making the team aware of constraints. (Constraints are factors that may interfere with things getting done on time, such as other projects, construction, labor disputes, budgets, etc.)
- Helping to inspire and motivate the team.

The Project Manager

This is the team leader who is responsible for making sure the project is completed and the goals and objectives are achieved.

This team member has some of the more hands-on responsibilities, including:

- Producing documents such as the plan of action, vision statement, target chart, planning tools. Some of these projects will be done by the manager; others will be done by the team and led by the manager.
- Keeping an eye on the big picture to ensure the progress is on track.
- Motivating the project team and helping them grow.
- Communicating with sponsors, stakeholders, and team members to ensure everyone is on the same page.
- Acting as representative for the customers of the project.

Stakeholders

The name says it all: this team member is someone who has a stake in the project. They may be affected by the outcome of the project, or they may simply have an interest in the project. This person is often involved only at particular stages. Their main responsibilities include providing feedback and guidance.

Key Team Members

This is a team member who has expertise in a particular area. They typically assist the project manager directly, contributing their expertise when necessary.

Their responsibilities include:

- Helping to determine whether or not the project is feasible
- Helping to plan the project
- Ensuring that the project comes in on time and on budget

Team Members

These people are the ones doing the work. Typically, each member focuses on a few tasks (or perhaps just even one task), as assigned by the project manager. They may also act in a consulting capacity if specialized expertise is needed.

The major responsibilities include completing the task(s) as laid out in the project plan.

Customers

Believe it or not, customers are a part of your project plan, too. These are the people internal or external to your company who are affected by the project.

Although the customer may not have a direct role on the project team, the customer should influence some decisions made by the project manager, including the objectives, how success is measured, and the direction for the project.

Suppliers

These are the people who provide the resources for your project. These resources can include services, materials, or products. These people are crucial to the success of the project.

Their sole responsibility is to work with the project manager to deliver the promised items or services on time and at the agreed cost.

Example

Acme Widgets Inc. has just received a contract to build 10,000 special widgets for Smith Manufacturing. However, they need to build a separate area in the factory for this new product. This has been assigned to Adrian Kronsky as a project.

The project team looks like this:

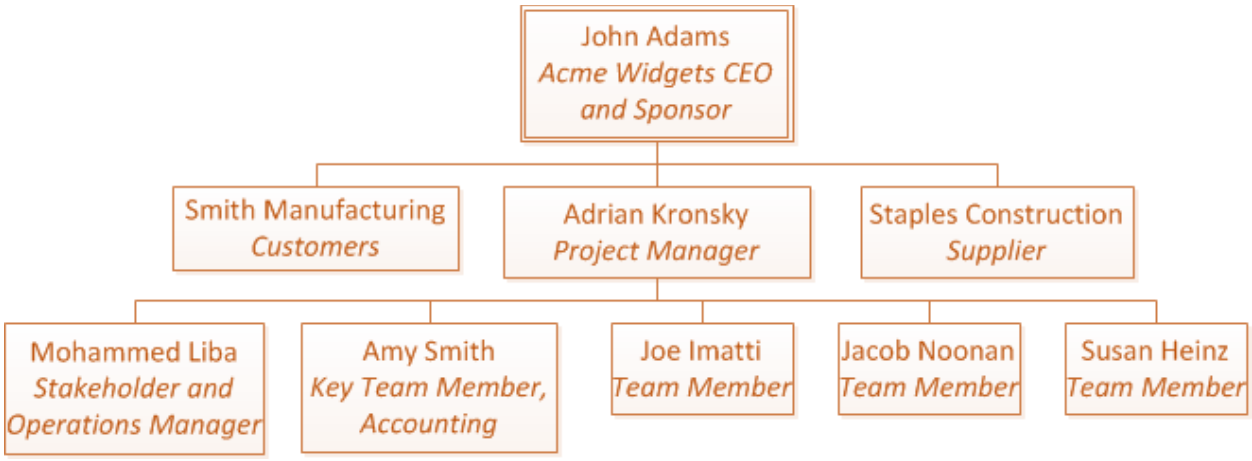

Fig. 6.3

The Role of a Project Manager

Setting Your Sights

A project can be extremely rewarding work. Because projects are usually set up to accomplish an important purpose, the success of a project can do wonders for anyone's career.

As a project manager, you need a clear idea of what you are to accomplish. So what do you do?

First of all, sit down with your supervisor to discuss their expectations. Try to put down on paper exactly what your goal is, what the project is to accomplish, how long you have to complete it, how many staff members are to be involved, to whom you must report, and so forth.

We have included a sample proposal form on the following pages.

Improvement Proposal Form

Part 1 – To Be Completed By Proposer

Date: _____

From (Proposer): _____ **Department:** _____

To (Manager): _____

Idea, Problem, Opportunity for Improvement:	**Measure(s) of Success:**

Anticipated Benefits from Tackling This Project:

_____

_____

_____

_____

_____

From (proposer): _____ **Date:** _____

To (manager): _____ **Department:** _____

Part 2 – To Be Completed By Manager

	Yes	**No**
This proposal is within my authority:		

This proposal is approved: ☐ ☐

Agreed Sponsor: _____

Agreed Team Leader: _____

Agreed Facilitator: _____

This proposal is declined because:

_____

_____

This proposal is not within my authority and is hereby forwarded to:

_____

_____

Signed: _____

Bringing the Team Together

If the project team is to be made up of members of your department, hold a meeting to discuss the upcoming effort and define the objectives. Give project assignments based on what your staff members are capable of handling. If you are charged with the task of selecting a project team, you should consider exactly what skills will be needed before making any team assignments.

Key Skill Areas

There are four specific skill areas that a project manager needs to develop.

Problem Solving

- Diagnostic thinking
- Systematic
- Conceptual
- Monitoring
- Information gathering

Achievement

- Concern for achievement
- Results orientation
- Initiative

- Business orientation

Resource Management

- Time management
- Cost management
- HR management
- Risk management
- Quality management

Influence

- Team building
- Developing others
- Client/user orientation
- Self-control

Eight Aspects of a Project

Scope

Clearly define what the project will and will not encompass. What is the expected outcome and final product?

Time

Time required to see this project through to completion.

Money

Costs: equipment, materials, labor or staffing needs, financing, or real estate.

Quality

Is there a need as outlined by the organization or the clients for the outcomes to meet certain standards?

Communication

Who needs to be told of project progress? Why must they be told? What should they be told? How or what medium will be used to communicate?

Human Resources

Who will be involved? Why those individuals? Is there a need on the project for special skills/needs or qualifications? How will they be motivated?

Contracts

Are there contracts? With whom? Are they third party (outside of the supplier and customer, such as subcontractors)? Is there a requirement for training and development?

Risk

How much risk is associated with the project? How much can be risked? Who decides the level of risk?

The Benefits of Projects

There are really only two types of projects: those that have been assigned to you, and those you want to take on because they interest you or because you see a special need for them.

Those assigned to you are often projects that you manage for your boss. They have been given this project, or they want to take it on, and they look to you for help. You are the de facto project manager.

Often, people placed in this situation have little or no training or understanding of what it is they are trying to achieve, and usually have no understanding of the components involved. Therefore, it is vital to set the stage by identifying some benefits of taking on a project.

However, sometimes we feel overwhelmed by the thought of taking on one more project and we feel like we are sinking. What do you do when that happens? This case study is about that very thing: learning how to handle another project when you are already carrying more work than you can do.

A Project's Life Cycle

Cycle Overview

The sequence of activities from the beginning of a project to its completion is essentially the same, whether we are talking about a small two- or three-day project or a large project that will span several months. These activities can be grouped into four different phases. (A phase of a project is a major set of activities that must be performed within the project management process.)

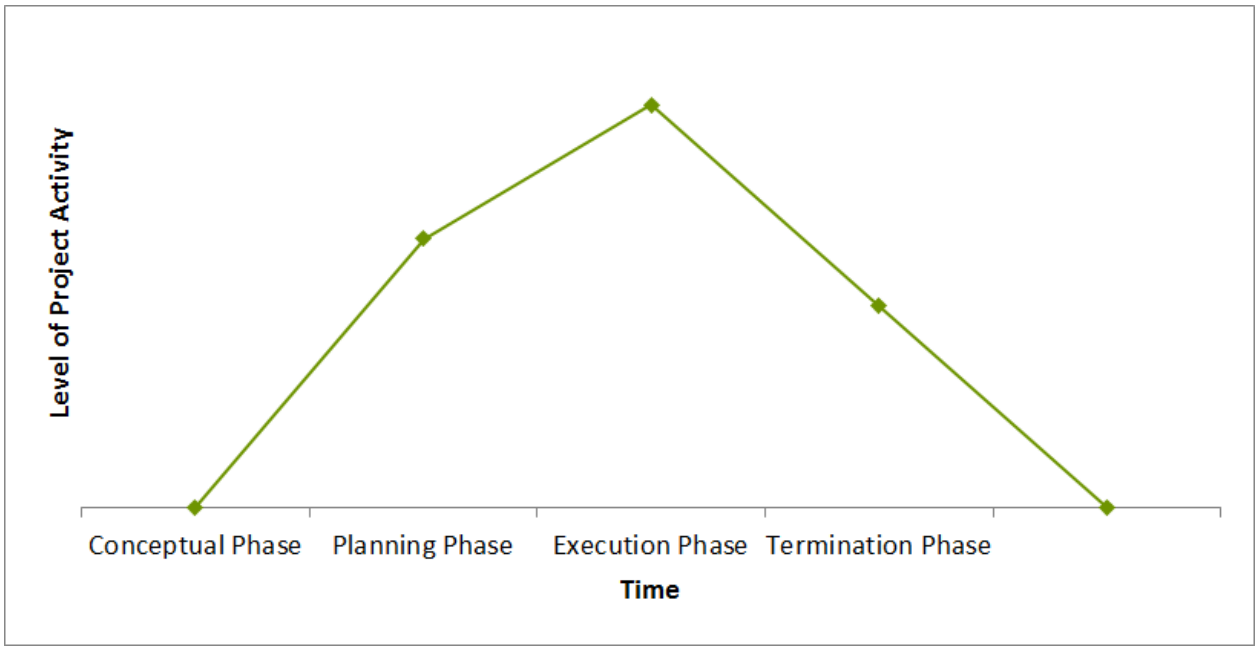

Fig. 6.4

Conceptual

The first phase is the Conceptual phase, sometimes called Initiation, or the Create phase. This phase shapes the project. It often begins after the project has been selected. The purpose of this phase is to provide direction to the team, to decide what is to be accomplished, and to identify constraints and risks.

Basic elements of this phase include determining feasibility; identifying and researching alternatives; naming prospective team members; and creating proposals, budgets, and schedules.
Once the team has been established, members will study some of the initial research before moving onto a Project Charter or Statement of Work (SOW). The team will also set a clearly defined conclusion, establish benchmarks and deliverables, and choose a course of action.

The output for this stage is the Project Charter or Statement of Work (SOW).

Planning

The next phase is the Planning phase, sometimes called the Sell stage. The project team identifies the steps and develops the plan for how and when the project will be accomplished. This is the most critical and most often neglected phase of the project. Poor planning or lack of planning here can have consequences all down the line. If everybody knows what is to be done, the project will go much more smoothly.

Tasks to be completed during Phase Two include setting clear goals, defining who is responsible for which tasks, refining budgets, obtaining necessary approvals, securing or designing systems needed, building and testing, analyzing results, and commencing production.

The output for the planning phase is a project plan document, a complete plan for how the project will be executed. The sponsor and other key shareholders should all approve this document.

Execution

After the project plan is approved the Execution phase starts, where the plan is put into action. Here is where you get down to working on the project and delivering the deliverables that were outlined in phase one. To make sure the work is on track, the team (or the project manager) must monitor progress, and, if required, recommend changes. Progress reports go to the stakeholders.

Tasks include making the time necessary to get the work done, obtaining and using resources (such as money, people, and equipment), meeting regularly with the team, and updating stakeholders.

Ensuring that the project is completed on time and within budget requires the project manager to direct and control the work underway. Tasks include establishing specific standards, monitoring performance, inspecting results and conducting interim progress reviews, auditing, and making adjustments.

Termination

Closeout or Termination is the final phase in a project. This is when your customer will decide whether they are satisfied with the project. The sponsor assesses the project in terms of goals met and costs incurred, while the team discusses lessons learned and ways the next project can be improved. A final status report is issued and sent to all key stakeholders. This is also the time to celebrate success and thank everyone involved with the project.

Tasks often include a meeting to produce a report or checklist upon completion, and the final production of manuals, drawings, and procedures for the client. The project team may train the client's staff, and the lessons learned through the life of the project are documented and shared for future project work. Finally, project team members are reassigned to pre-project work or perhaps new projects. Any equipment, space, or resources used during the project are repurposed or released.

Milestones

Milestones are the major elements or steps of a project. The first three milestones in every project are the "go or no go" phase gates. For example, after all the preliminary work has been done to shape what the project will look like, a critical decision has to be made. Is this project worth doing? Shall we move forward with it?

If the answer is yes, you move into the planning phase. When all the plans have been made, you once again stand at the edge of the cliff and decide, "Go or no go?" Has all the planning been done? No? Go back and finish it. Is this project still something we want to do? In that case, let's move forward.
The third phase gate is at the end of execution. Have all the deliverables been given to the customer? If no, then back you go to finish the job. If the final deliverable has been completed, then you can move to the final phase.

Why Do Projects Fail?

A project's failure is usually due to several key factors, one of which is the manager or team's lack of involvement in the conceptualization stage. The further down the organizational hierarchy the manager is, and the less information they are privy to, the more likely they are to fail or be less successful in their projects, and the more stressed they will be as a result. A coping technique should include asking for more information, or, after being briefed, summarizing their understanding of what took place. This can be followed by a statement such as, "This is my understanding of the project; if I do not hear differently, I will assume this is as it should be."

How Can My Project Succeed?

Here is a brief list comparing the reasons why projects succeed and why they fail.

Failure Factors	Reasons for Success

• Poor planning	• Good planning
• No communication	• Pre-defined communication plan
• Lack of resources/money	• Enough time and money
• Lack of commitment/team problems	• Team commitment
• Poor choice of leader	• A good team leader
• Setting unrealistic goals	• Realistic goals and time frame
• Lack of experience	• Experience with project planning and experienced team members
• Unclear objectives	• Clear goals

Three Ways to End a Project

Before you start the project, you need to have a very good idea of what the end will look like. We'll start with the best case scenario.

Fulfillment

This is the best case scenario, where the results, changes, or new products that were the goal of the project are included in the ongoing operations of the company. Project team members return to their pre-project work if appropriate, or move on to new roles. The project as a distinct entity is wrapped up.

Partial Fulfillment

Project team participants return to their pre-project roles if appropriate, and the project continues but as part of overall operations, rather than separately. This can happen when a project takes much longer than originally anticipated, or funding runs out and must be found from other places within the company, but it is advantageous to take what is already completed and integrate as much as possible.

Premature Termination

The project is stopped mid-stream, and people may or may not return to their original work; sometimes they are laid off. This happens when the project fails for any number of reasons, or the business changes focus. The project is closed down, and the team involved may experience a wide array of emotions depending on their reaction to the time and energy they dedicated to the project prior to its termination.

Selling a Project

Tom Peters

Tom Peters, one of the highest paid consultants of the business world, has written a lot about projects. He says that if you are assigned a project, get excited about it, not defeated. In fact, he suggests we take any project that is given to us and figure out a way to make it even better; not necessarily bigger, but better.
tom Peters once said, "Never, ever, accept a project or assignment as it is given. Resist the status quo."
Peters also says that if you haven't been assigned a project but you can see the possibilities, go out and find a project to tackle. Perhaps you had an idea as to how you could redesign your boss's office for increased efficiency, or you were walking through the mall and saw a wellness program advertised that you thought would work in your office. Maybe you heard of something another organization or department is doing that you think would work well in your own.
Project ideas are all around us and if you feel ready to tackle them don't wait for someone to notice you. Bring your idea forward.

The question you have to ask yourself is, "How will I sell it to my manager, or to the powers that be?"

It's pretty clear that you must have the ongoing support of management and key stakeholders before you initiate any project. This will involve both communication and negotiation skills.

Start by determining why the project is worth doing. How do you believe it will benefit the organization? Can you explain how the cost of the project (in time, money, or other resources) will be justified by the outcomes?

Ask yourself:

- Is there a need or an opportunity for this project?
- What is the relative cost in time and money for this project?
- Is there any risk of failure? What would this mean to me?
- Can I get support for my project?
- Will this project affect the bottom line profitability of my organization?

Remember, pet projects that are personally interesting but which will not benefit the company or have a low priority for other people can negatively affect business.

Identify the stakeholders (all of the people you have to get on board if this project is going to be successful). What role will each stakeholder take in the project?

Can you find a project sponsor (someone willing to give you the resources you need to move the project forward) for your idea?

The Priority Matrix

How do you get your own ideas accepted? How can you be sure these ideas are good enough to push for? There are a number of ways you might do this, but one of the most useful is to create a visual reference to demonstrate our priorities.

The Priority Matrix

For example, we might create a matrix to identify priority criteria for projects. Below are three criteria to consider but there are other things you might want to consider as well, such as "Will my manager support this project?" If your manager does not support your project it is usually dead in the water.

Project	Benefit	Easy to do	Contribution to priority area	Total
A				
B				
C				

D				

You can make this work by assigning points to each criterion, say on a scale of 1-10, or you may assign points depending on their overall value. For example, contribution to priority area may rate 15 points, while benefit rates 10 points, and easy to do rates 5 points.

For project A, for example, you may feel the benefit rates 7/10 points, and it is very easy to do so you give it 5/5, but the contribution it would make is not really a priority in your department so it gets no points there. It would only get 15 out of 30 points.

On the other hand, Project B would be quite beneficial, so you will give it another 7/10, but it isn't so easy to do, so it gets 3/10. Nevertheless, it is in a priority area so it earns a 10/15. Thus its total score is 20 out of 30.

Now deciding between the two projects is easy; the one that scored 20 should be the project to do.

Priority Quadrants

There is another matrix we can use. Draw two bisecting lines. One is for a high payoff vs. a low payoff. The second bisecting line is for difficulty vs. ease of doing a project. Mark each project in the appropriate quadrant.

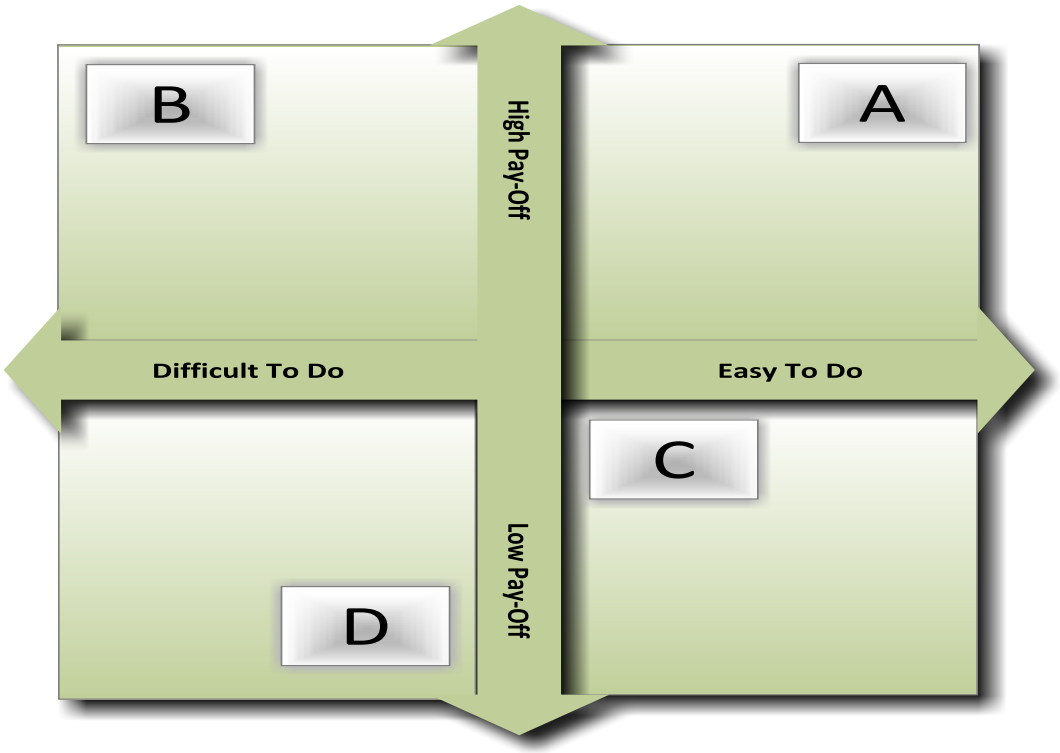

Fig. 6.5

Which would you consider a priority?

1. A
2. C
3. B
4. D

These are simple matrices, but they are graphic and they can sometimes help you make a decision you have been wrestling with.

Project Planning Tools

Beginning to Plan

One of the toughest challenges as we begin planning a project is to identify all the activities that we must do in order to see the project through to completion. Then, when we do begin listing them, we expect to be able to put them in the right order the first time through.

We can actually bog down our own project by trying to put everything in a linear row, from task number one through to the end. Don't worry about sequencing in perfect order right at the start of things. Leverage the experience and knowledge of your team and get them involved.

One idea is to use sticky notes and write every activity or task down as it comes to you. When you think you have identified every task that you believe is part of the project, start trying to put them in order. It can be a lot more fun to do it as a group rather than work on it all by yourself, and you are far more likely to have all the tasks identified.

As a way of making certain you have the tasks in the best order, start with the first activity you have identified. Ask yourself what comes right before that step, and what comes after that step.

Some items you will want to gather before starting the scheduling process include:

- Schedules of people who will be working on the project, including outsourced vendors. In particular, make sure you note times when they are very busy or may be unavailable.
- Vacation time for staff on the project.
- Other projects that team members are involved in that may conflict with this project.
- Schedules for materials and resources that will be required.

This formula is considered the standard for estimating time (T_e):

$$\frac{T_o+4T_m+T_p}{6}$$

T_m = probable time	T_o = optimistic time
T_p =pessimistic time	T_e =calculated time

To start, go through and assign an optimistic, pessimistic, and probable time to each of your tasks. These numbers will be derived from your experience and from the experience of your staff. It is crucial that you get the best estimates possible to ensure the most accurate scheduling possible.

In the example below, each number represents days. Go through the table and calculate the estimated time.

Task #	**Task Name**	**T_o**	**T_p**	**T_m**	**T_e**
1.	Consult architect	2	8	6	
2.	Obtain bank loan	1	10	5	
3.	Obtain building permit	5	14	10	
4.	Clear land	1	4	2	
5.	Excavate	1	4	2	
6.	Pour concrete foundation	1	4	2	
7.	Purchase materials	1	5	3	
8.	Construct frame	2	6	4	
9.	Install doors and windows	3	8	6	
10.	Sheath house	2	5	3	
11.	Roof house	2	5	3	
12.	Install plumbing	5	10	7	
13.	Install heating	1	5	3	
14.	Install insulation	1	4	2	
15.	Install electrical wiring	2	6	4	
16.	Install floors	1	5	3	

Task #	Task Name	T_o	T_p	T_m	T_e
17.	Lay-up masonry exterior	5	20	10	
18.	Put up wallboard	1	5	3	
19.	Install interior and exterior trim	3	7	5	
20.	Paint walls and trim	2	7	5	
21.	Paint doors and windows	1	4	2	
22.	Back fill foundation	1	2	1	
23.	Grade land	1	5	2	
24.	Landscape	1	5	3	

Other Scheduling Factors

Float Time

In almost every project, we have to account for Murphy's Law: "If something can go wrong, it will." Float time is the cushion you build into projects so you can accommodate the unexpected. Many projects build in a 10-15% contingency to add some float time to allow for delays. Depending on the complexity of the project, it may be more useful to just add a bit more time before the project is to be due rather than adding on to each step. One of the big problems with project planning is that you can neither see nor totally control the future. Keep in mind that anything you add will affect budget and resource costs.

Scheduling Checklist

As you are developing your project schedule, ask yourself who your readers will be:

- How much information do they need (big picture or details)?
- What form of schedule do they want or expect to see?
- Should I create customized versions of the schedule for certain audiences, or for display purposes?

Remember that a schedule is first and foremost a communication tool. Its purpose is to keep everyone aware of what should be going on. If people can't understand it, it is useless.

No matter which planning tool we use, each version should be dated so you can relegate old versions to the project file or the wastebasket. Nothing is more confusing than having two Action Planning Worksheets or Milestone Charts for the same project with no idea which one you should be following.

Activity Scheduling

New project managers often just try to schedule activities in sequence, one after the other. However, you can save a lot of time and money by creating a plan that has several activities happening at the same time. However, if you try to get things done too quickly you may end up with confusion and bottlenecks.

Figuring out what project activities can occur simultaneously is a job for a veteran. If you must figure it out for yourself, break the tasks down into as much detail as you can to avoid unforeseen project activities or costs.

Scheduling My Project
Use the table below to schedule your tasks and project. Remember the formula:

$$\frac{T_o+4T_m+T_p}{6}$$

Task #	Task Name	T_o	T_p	T_m	T_e
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					

Task #	Task Name	T_o	T_p	T_m	T_e
11.					
12.					
13.					
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15.					
16.					
17.					
18.					
19.					
20.					
21.					
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25.					
26.					
27.					
28.					

The Work Breakdown Structure

A Work Breakdown Structure is simply taking the milestones and breaking them down into the tasks required to reach each milestone. The idea of a Work Breakdown Structure (sometimes called Product Breakdown Structure) is to break larger tasks (milestones) down into smaller tasks (activities) or individual components.

Sample WBS

Here is an example Work Breakdown Structure for a newsletter project.

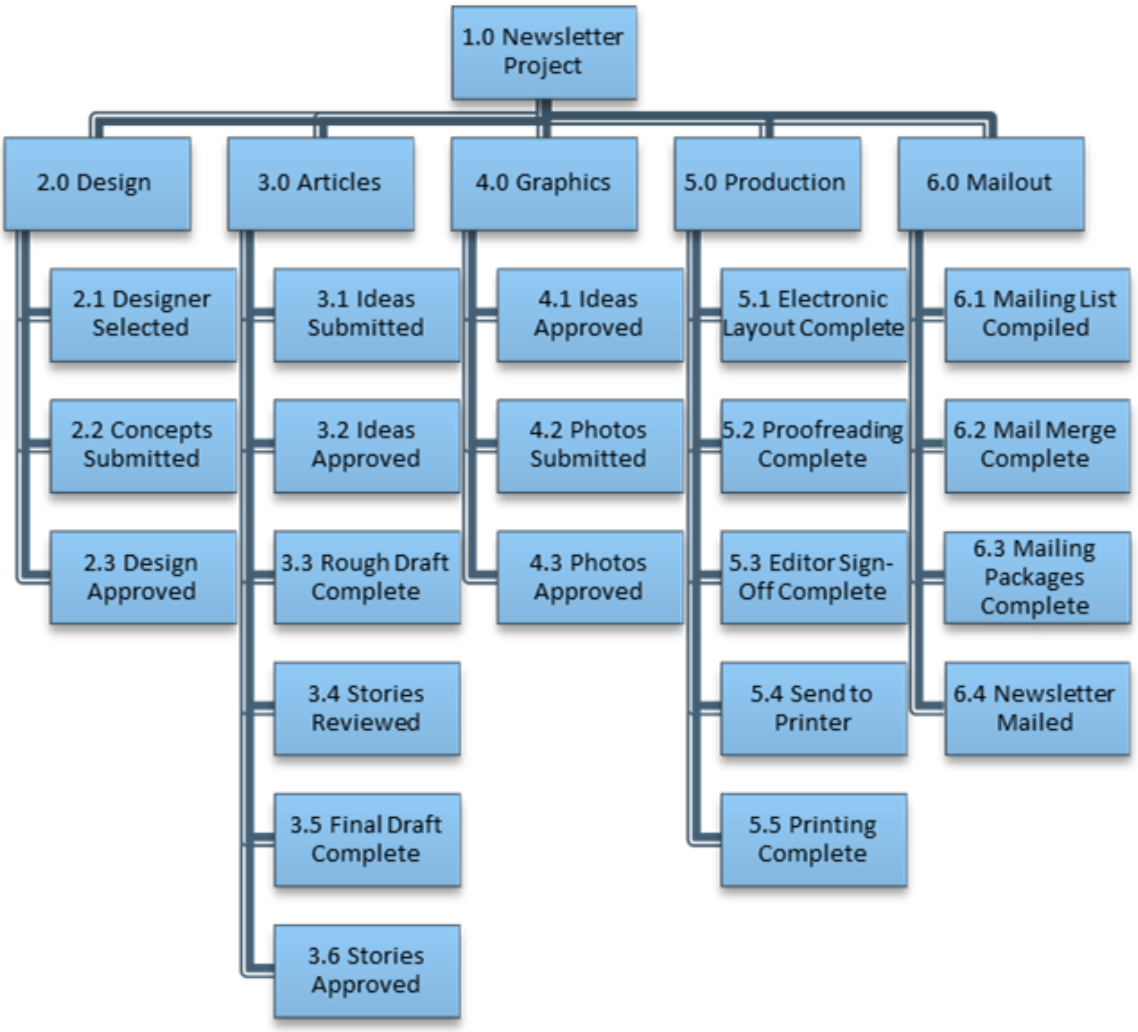


Fig. 6.6

Planning Tools

Two Basic Tools

We are familiar with many planning tools. We use them every day. They include:

- The clock on the wall
- The calendar in the lunch room
- The planner on our desk (or computer)
- The meetings we attend

There are several planning tools that we will only have time to touch upon briefly. Our main reason for including them is to help you become more familiar with them. There won't be time to learn how to use

all of them, and most of them are used with more complex projects. However, this will give you a starting point, and some ideas.

Action Planning Worksheets

These can vary greatly in their complexity. The most basic ones show only those steps required to complete a project. Additional information, such as the beginning dates, targeted completion dates, cost estimates, and who is responsible, can be added to the basic worksheet.

Milestone Charts

Milestones signify a key accomplishment in your project. They are markers for summarizing work that has been done, not individual tasks. One advantage of a milestone chart or calendar is that it can be posted for everyone to see.

A Milestone Chart will be even more useful if you use it to chart your progress. This is usually done by drawing a line in a different color under the original line to show actual beginning and completion dates of each step, or if you are using a wall calendar, crossing off each milestone when a task is done.

PERT

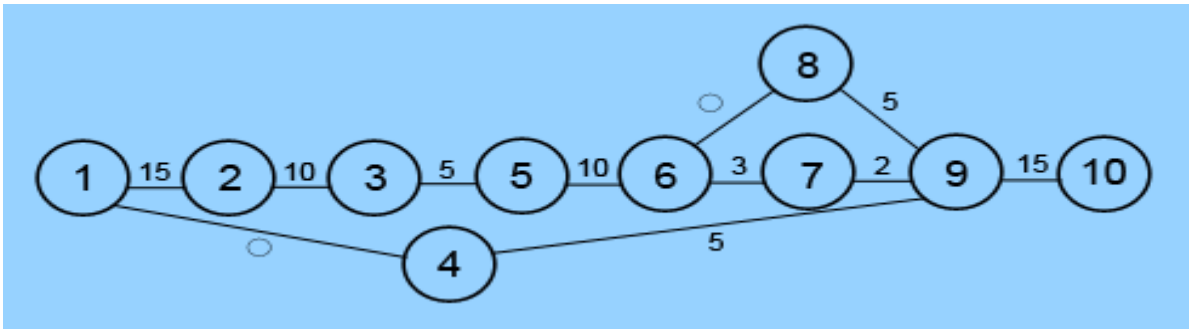
PERT stands for Program Evaluation Review Technique. A PERT diagram represents an added degree of sophistication in the planning process. To draw one, list the steps required to finish a project and estimate the time required to finish each step.

OBJECTIVE:

Publish a Work Planning and Review Workbook by September 1, 20--.			
Action Steps with Time Estimates:			
1. Write draft	15 days	6. Proofread	3 days
2. Type draft	10 days	7. Make corrections	2 days
3. Proofread	5 days	8. Draw figures	5 days
4. Draw cover	5 days	9. Reproduce	15 days
5. Type final draft	10 days	10. Deliver books	

Steps that must be completed first are shown in order to clarify proper sequencing. Steps that can be underway at the same time are shown on different paths.

Then, draw a network of relationships among the steps. The number of the step is shown in a circle, and the time to complete the step is show on the line leading to the next circle.



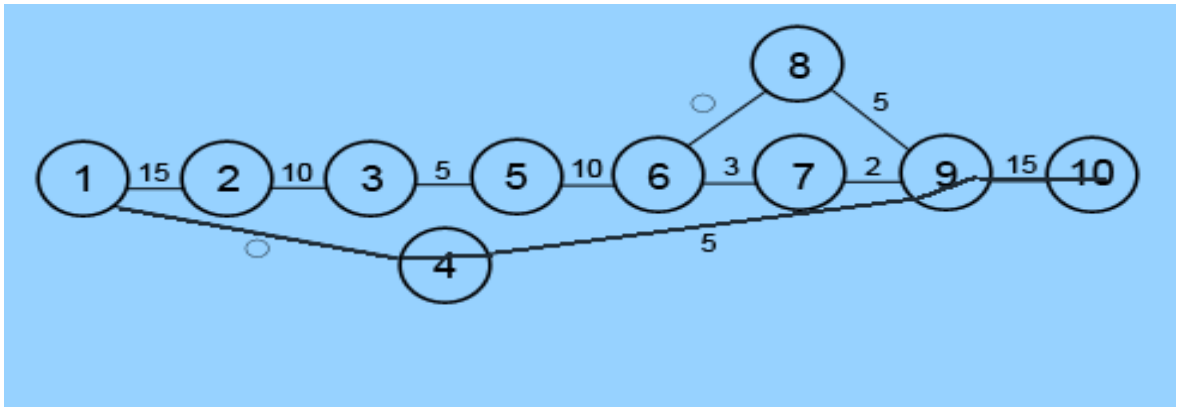
(The PERT Diagram can be made clearer by coloring each step as it is completed. Actual time may be written over the estimated time to maintain a running tally of actual versus planned time along the critical path.)

Along the Critical Path

A PERT diagram not only shows the relationship among various steps in a project, it also serves as an easy way to calculate the critical path.

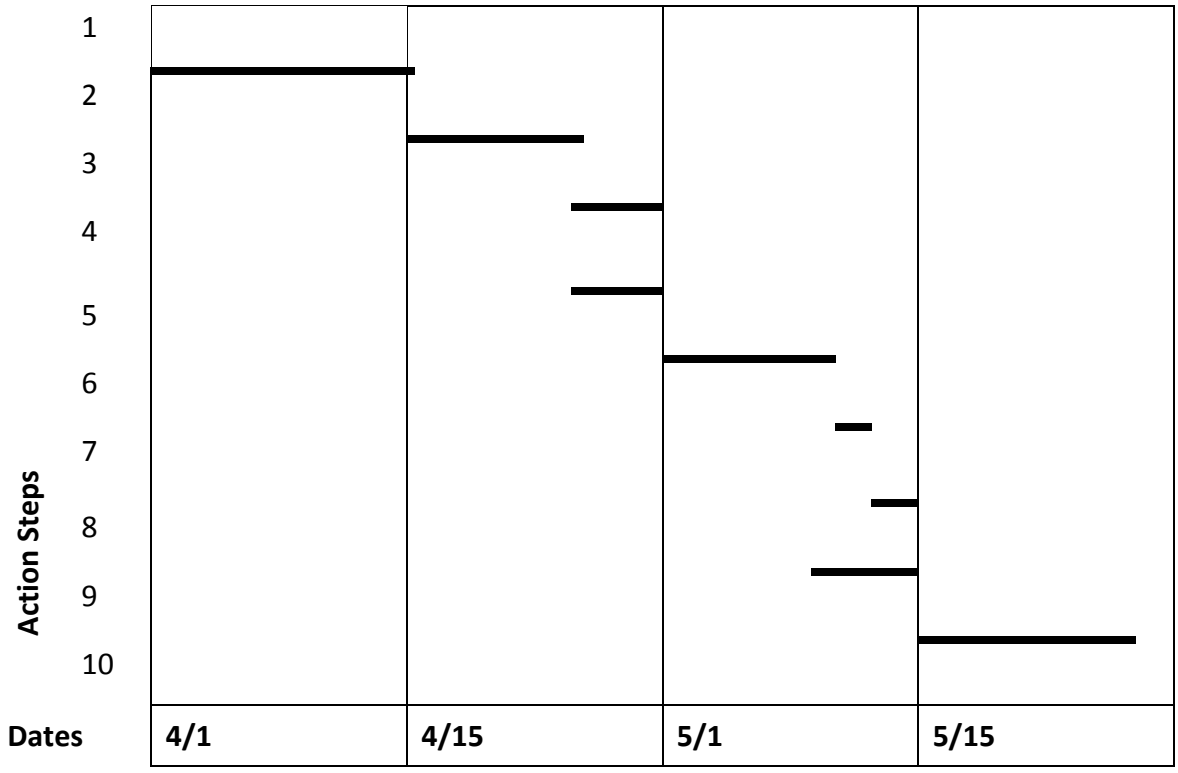
The PERT diagram and the CPM (Critical Path Method) are very similar, and they are the most common forms of showing networks, or interrelationships among tasks. They just display information differently. They are sometimes called the PERT/CPM activities.

The critical path shows the shortest amount of time needed to complete a project.

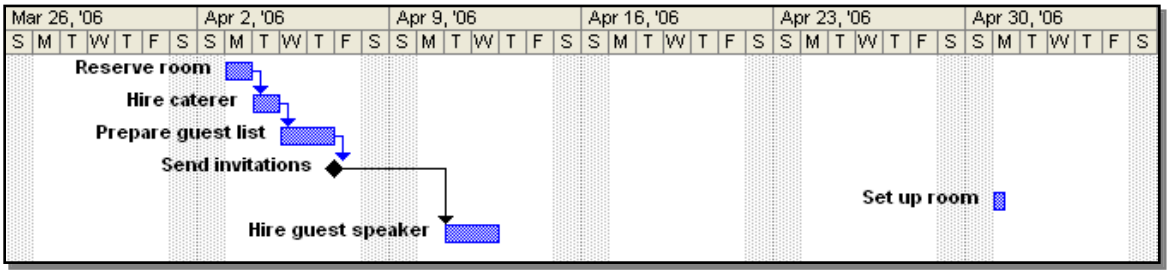


Gantt Charts

Gantt charts are bar charts that show activities as blocks of time. These are extremely useful; once you have calculated the estimated duration for your project, you should fill in one of these.



Here is a computer-created Gantt chart.



The Network Diagram

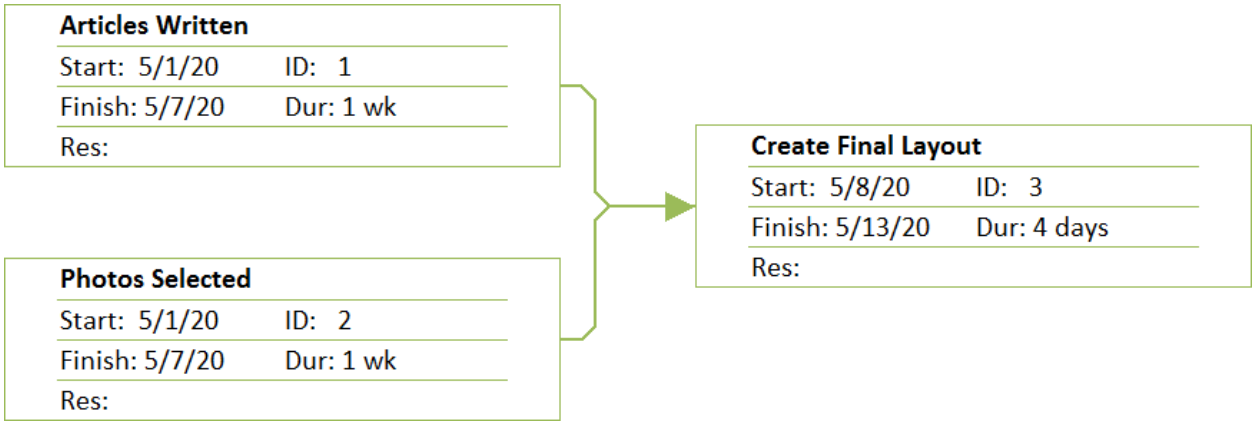
The Network Diagram is a tried and proven way to organize and sequence the steps in a project. Anything but the simplest project should have a network diagram; it's a road map for your project and you don't even need a computer to create one (but it sure helps on big projects). However, it's important to understand how to create your network diagram manually before you let your computer do your thinking for you.

The network diagram shows the path of the project, lists start and finish dates, and names the responsible party for each task. You should put your network diagram on the wall where the whole project team can see it. Then, use a bright color to mark off what has been done; this is a powerful way to communicate just where you are in a project.

If you are the only person working on your project, you will probably complete your tasks in sequence, one after the other, until the project is finished. However, if your project involves more than one person, people will be working on different tasks at the same time, and some tasks may depend on others to be completed before they can get done.

These interdependencies can be hard to figure out in your head. That's when you really need a network diagram—to help you picture how the pieces fit together.

Detailed task lists and a work breakdown schedule are a good start, but they don't draw the complete picture. They aren't very effective when it comes to coordinating tasks and resources. Network diagrams reveal the workflow, not just the work.

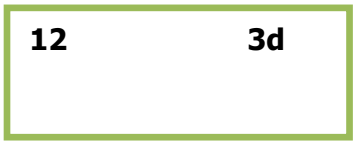


Five Steps to Create a Network Diagram

1. List the tasks using your task list or your WBS (Work Breakdown Structure).
2. Establish the interrelationships between tasks.
   - What precedes this task? What other tasks must be completed before this one can get started?
   - What tasks follow this task? What tasks can't be started until this task is done?
   - What tasks can take place concurrently with this one? What tasks can be worked on while this is being completed?
3. Identify milestones. Milestones signify a key accomplishment. They are markers for summarizing work that has been done, not tasks. If the project is small, you can even leave out the milestones.
4. Lay out the tasks and milestones as a network. Some experienced project managers start at the end point, the last task in a project, and work backward. However, there are many good arguments for starting at the first task and moving forward. Your approach is a matter of preference.
5. Review the logic of the network. The network review process lets you see whether tasks are being done in a logical sequence. Ask yourself:
   - Are the tasks properly sequenced?
   - Are all preceding tasks identified?
   - Are all the tasks necessary?
   - Are any tasks missing?
   - Do these tasks represent all that needs to be done in order to meet the project goals specified?

Other Things to Know about Network Diagramming

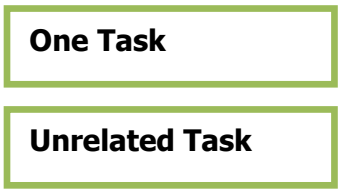
A rectangular box indicates a task. The number in the top right is the duration of the task. The number at the left is the task number used for tracking.



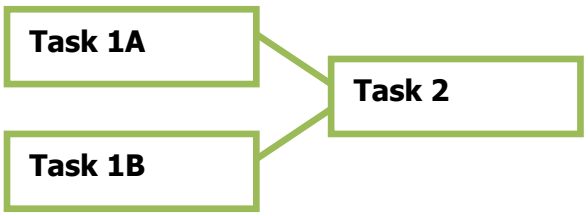
A box with rounded corners is a milestone. Milestones do not have duration like tasks because they represent the completion of a series of tasks.

Precedence is indicated by the sequence of tasks joined with a line and an arrow.

Concurrent tasks are shown in the same vertical plane and are not connected by lines or arrows.



Two tasks that must be completed before a third can begin looks like this.



To make tasks and sequences easier to find in your network, be sure to identify each task and milestone with unique numbers or other identification labels. In computerized project management programs, tasks are always numbered and identified by task description.
The same method of identification or numbering used in the WBS is usually appropriate; however, it is common in networks to skip numbers between tasks to allow flexibility in the network when requirements for new or different tasks may become apparent later in the project.

For example, instead of numbering tasks as 1, 2, 3, and so on, it might be better to number tasks in relation to each milestone. For example, between task 10 and task 11, you can number them 10.1 and 10.2 without disturbing the logical numbering sequence of the original tasks. The numbering system should be flexible because projects almost always have changes that need to be represented in the network.

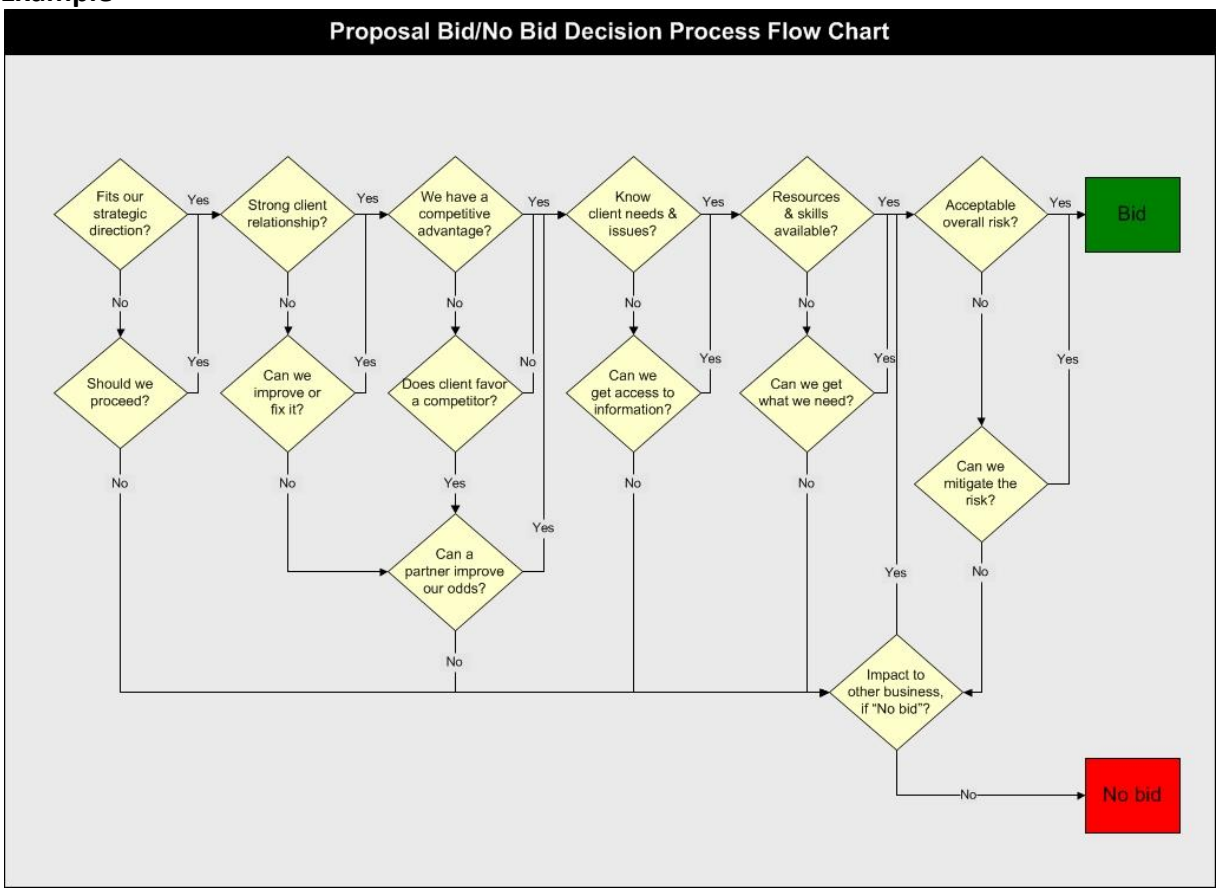
The Flow Chart

You've probably seen a flow chart. It shows the flow of information or activities based on different outcomes.

Here are the steps to making a flow chart:

1. Gather a group of people who represent the various parts of the process.
2. Decide where the process begins and ends.
3. Brainstorm the main activities and decision points in the process.
4. Arrange these activities and decision points in their proper order, using arrows to show direction of flow.
5. As needed, break down the activities to show their complexity.

Example



(Source: Visio sample provided by pcubed.com)

Most projects run on tight budgets. Often, everything costs more and takes longer than you expected it to, or the budget was put together in a hurry and key tasks get left out of the process.

Ideally you will control the budget. More often than not, though, you will have the responsibility of tracking the budget, without control over how the dollars get spent.

There are two major costing methods:

- Bottom-up budget: You and your team get to build the budget by hammering out costs, item by item.
- Top-down budget: Senior managers estimate the costs and allocate that amount to you for execution.

Perhaps the best type of budget combines both methods: you're given an amount and then you build a bottom-up budget. Try to build your budget in an orderly fashion, task by task, step by step.

Remember:

- Costs are tied to time frames and schedules.
- Doing things faster usually costs more money.

Costs require expert input. Don't make "guesstimates" about areas you know nothing about. Ask the people who will be doing the work what their costs will be. Get budget input from staff, outside service vendors, and other project managers who have more experience than you.

Who controls the budget? Whatever the arrangement, ask your project sponsor to sign off on the final budget and any budget changes thereafter. However, try to come to some arrangement so you can buy supplies and pay bills in a timely manner.

Remember to ask:

- Can you get some signing authority?
- Do you control petty cash?

Establishing a reliable budget is likely the most difficult task a project manager faces for political and logistical reasons. Management personnel will rarely accept your budget as reasonable; they will attempt to squeeze money from it, even if it means putting the project at risk. You'll need to document and negotiate what you really need.

Your budgeting skills will improve after successfully completing several projects. You want as much direct control of your budget as possible if you're going to be held accountable for the project outcome.

Teamwork

Why is Teamwork Important?

One of the essential ingredients of a successful project is teamwork. Members of the group must all feel that they are working toward a common goal.

Therefore, assignments should be common knowledge to all participants. Individuals should understand their areas of responsibility and know who is responsible for other facets of the project. Unless this is clear from the outset, problems will occur, involving hurt egos and/or assignments that are neglected because nobody knew who was supposed to do what.

Giving assignments to team members shouldn't be any different from giving regular departmental assignments, with one possible exception: now they are under a strict deadline.

Another challenge: on long-term projects, it can be difficult to hold the interest of all team members.

Building a Winning Team

In an ideal world, when you are tackling a project that involves more than just you, you would get to select the people with the right skills and the commitment to get the job done. However, in the real world, you won't always have the advantage of being able to choose every member of your team. Sometimes people are selected because they are available, rather than because of their skill or talent.

People can often do more than you think they can. They've just been waiting for a chance to prove their ability.

Remember the self-fulfilling prophecy: if you believe they can do it, they can! Be realistic about your team's ability, but don't wear yourself and everyone else down with negative energy before the project starts.

Here are some tips for building a winning team:

- Define roles. You give teams a fighting chance if all members know what their roles and responsibilities are from the outset.
- Make a list of all the skills needed to complete each task on your project.
- Do a skills inventory of the people you have to see where you stand.
- Be prepared to negotiate for the team members you need. Don't just complain; come up with alternatives and solutions.
- Do the best you can with the people you have, but make sure resulting problems are documented as they occur.
- If your team doesn't have all the skills they need, build training into the project.
- If your team isn't qualified for some tasks and training would take too long, consider hiring a contract position for that particular skill/task.
- A diverse group of people may be difficult to work with initially, but over the long term they may prove more creative and add more value to the project.

Note: In the long term, learning to work with different people on different projects, and developing your ability to bring out the best in everyone, will make you a more valuable and respected project manager.

Developing Teams

Four Issues to Address with Project Teams

There is no question that teams can unleash a tremendous energy for a project. But there are four issues that are critical to the success of that team.

Accountability

The biggest problem when forming teams and assigning projects to them is that accountability may be lost. Teams are often formed spontaneously by asking people to volunteer for assignments. They choose their own leader and then proceed with the work.

Ask yourself these questions: If the team fails miserably, or produces substandard work, would you fire the entire team? On the other hand, could you promote the entire team, as a team, if the work was outstanding?

In both cases, your answer is likely to be "No." That means you do not have team accountability. You are hoping for a happy accident to occur.

The lesson: Team members must be chosen carefully and they must be very clear about their responsibility to the team.

Experience

Teams also need a leader with more than technical expertise. Team leaders need to understand brainstorming, group dynamics, and the ability to get information from others.

Resources

Resource allocation at the appropriate managerial level is another critical factor in forming and commissioning a team. Teams should not be formed from the bottom up and have to search and beg for resources or technical expertise. The appropriate manager should ensure that these resources are provided.

Empowerment

Finally, teams formed to address strategic issues should not be formed at too low of a level. Hands-on workers can deal with operational concerns but they frequently do not have enough information to address strategic considerations.

Checklist for Success

When forming the project team, ask yourself:

- Can general experience be sufficient? Does the individual need specific experience?
- What interpersonal skills are required?
- How many of each of these skilled people will be needed?
- What level of supervision will be required?
- Not everyone is a team player. Is this important?
- Consider skills and personality. Can everyone work together? Do they have the necessary skills?
- Team Development

As early as the 1970s, researchers were discovering that groups of individuals working together go through four distinct stages of development. The most famous representation of this model is Tuckman and Jensen's Forming, Storming, Norming, and Performing model. Over time an additional stage has been added to reflect the natural end to a group: Adjourning. The stages are similar to human development: infancy, childhood, adolescence, adulthood, and old age.

One of the roles for a group leader or facilitator is to help the team grow and develop. Sometimes a team is only together for a short, specific project, and you will try to move them to a productive stage as quickly as possible.

Forming

Characteristics of this stage:

- Group members may be anxious, adopt a wait-and-see attitude, and/or be formal.
- No clear idea of goals or expectations.
- Members are unsure why they are there.
- Members need to get to know one another.

What you can do to help:

- Have the team write its own charter or mission statement and clarify their goals. Remember, goals must have personal buy-in.
- Help the team establish boundaries and determine what is expected.
- Assist team members to get to know each other doing a non-conflict laden task. This builds commitment toward one larger goal.
- Help them know what to expect; communicate and reassure.

Storming

Characteristics of this stage:

Team members eager to get going.

- Conflict can arise as people bring different ideas about how to accomplish goals and notice differences rather than similarities.
- Some members may drop out mentally or physically.

What you can do to help:

- Continue with no surprises and communicate.
- Tensions will increase; this is normal, so recognize and publicly acknowledge accomplishments.
- Keep in mind that conflict can be healthy.
- Lead/participate in meetings.
- Value diversity.
- Gather information and be supportive.
- To move to the next stage, encourage participants to put the needs of the group ahead of their personal interests.

Norming

Characteristics of this stage:

- People begin to recognize ways they are alike.
- They realize it's sink or swim; they're in this together.
- People become more social.
- Members may forget their focus in favor of having a good time.

What you can do to help:

- Recognize how they are alike.
- Help with training if applicable.
- Encourage them to feel comfortable with each other and with systems.
- Help the group stay focused on its goal.

Many groups don't make it to this stage, where there is much more cooperation and understanding than previous stages. Be observant of emerging group behaviors, encourage the team to express their differences positively, and help them stay focused on their objectives.

Performing

Characteristics of this stage:
Team members are trained and competent, able to do their own problem-solving.

- Now the leader will ask for critical self-assessment and look at ways to challenge and develop them.
- Members are mature and understand their roles and responsibilities.
- The team wants more input in processes.
- Everyone is self-motivated and self-trained.

What you can do to help:

- Recognize efforts.
- Encourage growth.
- Give new challenges.

This phase happens as a demonstration of high levels of trust. It can also be susceptible to "groupthink," so the leader must observe and ensure that individual ideas are requested and considered.

Adjourning

- Winding down and saying goodbye.
- Setting goals for future work independently and/or as part of new groups.

Groups may adjourn because they finish a defined project, because they are no longer challenged, or they may have several newcomers and that shifts the group.

In this phase, leaders can support the group by celebrating everyone's participation, describe what's going on, look for and encourage contribution from everyone as the group winds down, and encourage continued productivity.

Aspirinia

Decision Information
Introduction
You work for the Super Aeronautic Space Science Institute (SASSI for short). The group is international, but then, so is everything these days. The old concept of separate countries vying for their piece of Earth,

wealth, and power has given way in the need for survival. You have been selected to be a part of a team of scientists and astronauts getting ready to leave Earth to explore Aspirinia, a moon that appears able to sustain life and currently orbits Earth with our original Moon.

Sounds like science fiction? Think again!

The year is 2111. A hundred years ago, there was a massive shift in space, and a catastrophic astronomical storm destroyed orbit patterns, sent moons and planets in unimaginable directions, and re-wrote the map of the universe. The storm pushed tens of thousands of pieces of rock and space junk into the asteroid belt. Many pieces burned through the outer edges of Earth's atmosphere and crashed into Earth itself. Millions of people were killed in the constant showers of rock and minerals, earthquakes, landslides, tsunamis, and severe weather. Despite celebrating the birth of the 7 billionth person in 2011, current census results indicate there are no more than 1 billion people left on the entire planet Earth.

In the destruction, many of Earth's great scientific minds were killed. Air travel, cellular technology, the Internet, and contact with other regions are all extremely limited, and very costly. Short wave radios are most commonly used and Morse code is once again the language of the airwaves. Dirty water is a constant threat. Food is scarce and rationed everywhere. There is high security around technical installations and food and water treatment and preparation facilities. The greatest threat, however, is the cooling of the Earth's core. An ice age is imminent.

As well, the moon Aspirinia that was once orbiting around Jupiter now orbits Earth with Earth's original moon, having broken away from Jupiter's orbit. Earth's own axis shifted by nine degrees, and Earth's moon shifted so that 50% of what used to be known as its dark side now faces the planet below.

One hundred years after The Shift, Earth's fractured self is still adjusting to the changes. The ground is so unstable that earthquakes can no longer be told apart from aftershocks in several regions. Areas that were at around sea level before the shift are now underwater (perhaps permanently). Survivors have relocated themselves far inland, often living in family groups and tribes in small villages and learning to survive by practicing ancient techniques of water treatment, farming, and sustainability.

The surviving members of the science community were left with access to a multitude of information, and a possibly crazy idea. Aspirinia seemed to quickly stabilize when it took up position beside Earth's original Moon, and has remained there. The question is: can it sustain life?

Before The Shift, SASSI was involved in a terra manipulation experiment on Earth's Moon. The terramanipulation was an effort to make the moon livable for humans and animals. Scientists were able to manipulate and secure the moon's gravitational pull, create thousands of hectares of farmable land, and generate drinkable water. They were in the process of completing the final touches on the ecosystem, complete with insects, birds, and farm stock, when The Shift hit and the project was abruptly ended. By the time The Shift finished its active phase, the Moon showed significant damage, with

enormous craters and at least three cracks the size of Earth's Grand Canyon. The scientists and settlers on the Moon all perished when the Moon's gravitational pull returned to its pre-terramanipulation state.

Aspirinia, however, appeared to be another matter. It was significant enough to be a planet in its own right, judging by its size and composition. Positioned as the next door neighbor to Earth's Moon, scientists are confident that Aspirinia could be the savior they are looking for. At about two-thirds the size of Earth, Aspirinia shows evidence of plant growth and water on the surface at some time, and its gravity and placement have been consistent over the past 90 years or so. Could terramanipulation, once a story in science fiction tales but partially proven on Earth's old Moon, be made to work? Could Aspirinia save humanity?

Individual Action Steps

There are several things that your team will need to do before leaving for Aspirinia. Go through the list below individually and rank the tasks from 1 through 8, with 1 being the most important, and 8 the least. All tasks must be completed, and all must have a different ranking.

Individual Ranking	Task	Group Ranking
	Hire three security personnel to protect the SASSI center, including an airstrip.	
	Reassign resources (food, water, electricity, heating fuel, medical supplies, and water purification chemicals) from the local village to the space team.	
	Visit the neighboring village to solicit their support for the project.	
	Make repairs to the space suits, which are now 100 years old and must be made secure against leaking. You will not know enough about the atmosphere on Aspirinia until you get there.	
	Form a team to create ration packages to last at least six months. You will be dehydrating food that is harvested by the local villagers and rationed in the village.	
	Establish your realistic launch date.	
	Send ahead two unmanned shuttles with supplies.	

	Arrange for a launch party that includes the villagers.	

Communication Tips

Project managers are the key to keeping communication flowing between their team, manager, and any external customers or agents who will be affected by this project.

Reports will be your documentation for this project. Send reports out on a regular basis to all those who need to be kept in the loop. One final report should be prepared to close out the project.

Closing Out a Project

While you may not want to start planning for the end of a project before you start, you should have some plans for a smooth closing from the outset. For example, do you have a file for each person on the project? Someone is sure to leave before the project is done. You will want to be able to contact them should you need to, and to send them a thank you note when the project is done.

You will want files on the vendors you use, and anyone involved in the project, if only for a short time. You will want to make arrangements to:

- Return items borrowed.
- Account for leased or rented equipment.
- Clean up after a conference, party, or banquet.
- Make sure all unfinished project activities are completed.
- Pay final bills and fulfill all contracts.
- Present the finished project to stakeholders, and anyone else who needs to sign off or approve the project.
- Be prepared to conduct post-project evaluations with your team so you can learn from the past.
- Make sure all documentation ends up in the hands of those who will need it in the future.
- Meet with team members and thank them for their efforts.
- If the project was a success, celebrate!

Taking good notes for the duration of a project can benefit future projects. Documentation on research and initial planning is important. However, don't forget to gather information on what could (and did) go wrong and the solutions you developed. This information is critical to help the next team create a better plan.

Remember that part of the SPIRIT goal model is to reward yourself (P stands for Prizes!). Projects should incorporate some kind of celebration for the successes achieved. Even if the project is scrapped partway through, you can celebrate lessons learned, even if it is over a cup of coffee at a local shop

Here is a checklist of things that should be done before a team meeting:

Individual Meetings

- Meet with team members and discuss:
- Why was this person selected?
- What are the performance expectations?
- What are their individual priorities?

Information Gathering

Obtain the who, what, where, when, why, and how for the project.

Agenda Planning

Now it's time to plan the team meeting. You will want to:

- Ensure that the proper individuals are invited
- Develop an agenda and set objectives
- Send the agenda and information requests to the team
- Book the appropriate space

During the Meeting

- Make sure the meeting starts on time
- Encourage open communication
- Take notes
- Set some ground rules
- Introduce the members of the team
- Cover one agenda item at a time
- Review the priorities for the project objectives and schedule
- Review main points of the project, including goals, budget, and completion date
- Review individual plans for getting work started
- Discuss methods and tools to be used to manage, control, and operate the project
- Establish the time and place for the next project meeting
- Agree on and reiterate any follow-up activities or action items

A major cause of frustration can be related to ineffective meetings, yet meetings are necessary to exchange information and coordinate activities. However, people at all levels of an organization need to know how to plan, conduct, and participate in meetings effectively.

Seven Ingredients for Effective Meeting Management

- Always have an agenda and be fully prepared, even if you are doing something creative like brainstorming. This lets people know what to expect, and that their time is valued by you.
- Focus on what's important to the entire group during the meeting. If side discussions come up and the topic doesn't affect the whole group, schedule them for another time.
- Take action instead of becoming a group that gets stuck in discussion, and make sure people follow through on commitments.

- Train group members in communication, problem solving, and conflict resolution so they have the skills needed to be successful.
- Hold your meetings in places that are free from interruptions and distraction.
- Encourage open communication through facilitation skills and attention to your own body language. Make sure that you listen more than you talk.
- Ask for someone to be a note-taker (or appoint someone) so that you can focus on leading the meeting instead of trying to do both.

Making Committees Work

A committee should be results-oriented and have a time frame for accomplishing results.

Small committees usually function best. Size can be determined by the expertise needed and should be representative of the larger group.

Committees function best when one member agrees to serve as leader and assumes the responsibilities of leadership. Committees then function as small groups, holding their own meetings for which they keep records and have an agenda.

Assigning Work

Sometimes you are just handed a job that has to get done. **The projects may be less of a** team effort and more an assignment to be completed by a certain deadline. Knowing how to give effective work assignments can be a powerful motivational tool that encourages employee creativity, development, and commitment; however, poorly assigned work can cause a project to come unglued.

Who will do the task?
Consider the training, experience and skill requirements and compare staff members against these needs. At the same time, include opportunities for employee development and growth.

Make sure the expected results are clear in your mind
. Have a snapshot of success that you can share with employees. Putting your vision of success in writing often helps clarify expectations in your own mind.

Before you give out the assignment, find a way to **put the employee at ease**.
Help the employee understand the bigger picture.

Make sure you have allowed for **adequate time to explain** the assignment fully and why it is being done. Communicate objectives and standards of performance expected.

Communication should be a two-way process.
Allow time for questions and clarification, and get feedback from the employee as to how they see the task getting done.

Define any limits or constraints on the employee,
such as budget constraints, time limits, or overtime concerns.

Help the employee feel comfortable asking questions and discussing concerns. If you seem rushed or look at employees like they are stupid when they ask questions, you won't get much of a response from them.

As well, **get a commitment from the employee** that they will do the task. Plan on following up on your assignment to see that the task is being completed as expected: on time and on budget.

Presentation Primer

Project Management Presentation
Each presentation will consist of the following:

- Background information: How does the project fit into the big picture?
- Project goal statement: What is to be accomplished?
- What planning tools will you use? Why did you choose these particular tools?
- Explain the allocation of resources (such as materials, labor, and equipment).
- What will you communicate? How will communication take place?
- What conflicts could arise? How will these conflicts be dealt with?

Presentation Strategies
In most business situations, the best way for you to organize a presentation is to divide your message into four parts.

- What is the problem to be solved? Why are you talking to the group? If you can state that in a few sentences you'll find it much easier to develop the rest of your material.
- What is your solution to the problem? What do you recommend? Never present all of the solutions you researched and discarded. That dilutes the forcefulness of your saying, "This is what we should do next." Then briefly tell your audience why you believe your solution is best.
- What are the benefits of the solution to both your organization and to the individuals in your audience? Be careful not to confuse features with benefits. A feature is some characteristic of the solution. A benefit is what solving the problem your way can do to help your listeners.
- What is the action step? If your listeners agree with you, what do you want them to do next? Be specific.

One problem that hampers most presentations is the lack of an action step, where you tell your audience what you expect them to do and when. The action step should be something like, "By Tuesday, I'd like any suggestions in writing because we'll start this plan rolling on Wednesday." It's then clear what you expect and why you wish others to achieve it.

Speaking with Confidence

If the mere thought of speaking in a group makes you break out in a rash, here are some tips to increase your confidence:

- Stand, don't sit. Why? Standing makes you seem more powerful and more energetic. You will project both your voice and your message better when you're on your feet.
- Make up cue cards or visual cues. Use a flip chart or slides to note the key words of the ideas you want to get across.
- Face the audience directly and focus on one person at a time. Effective eye contact means focusing for at least three full seconds at a time on each of your audience members.
- Use your hands. Movement is a critical element of every presentation (but try not to look like you are conducting an orchestra).
- Ask questions to get questions. You need questions to gauge how completely your ideas were accepted. If you ask a couple of questions, it gives the audience time to prepare their own.
- Look around when you answer a question. Look fully at the questioner as they are speaking. Then repeat the question, moving your eyes around the group. This gives you some time to think and include the whole group in your answer.
- Neutralize negative questions. It requires a bit of practice, but you can reframe most negative questions to make them more positive.

Project Presentations

Remember to include the following in your presentation:

- Background information: How does the project fit into the big picture?
- Project goal statement: What is to be accomplished?
- What planning tools will you use? Why did you choose these particular tools?
- Explain the allocation of resources (such as materials, labor, and equipment).
- What will you communicate? How will communication take place?
- What conflicts could arise? How will these conflicts be dealt with?

Working on a Project

The Vision Process

At this stage, you've chosen a project. But do you really know what you're trying to achieve?

Try this exercise: Sit at your desk with a sheet of blank paper in front of you. In an ideal world, what would your project do? Don't think about what it can't do, or why certain things aren't possible. List all ideas and goals, no matter how lofty. You may also want to perform this activity with your project team; it will get them excited about the task ahead.

Let's say that you have an idea to implement a new sales computer program in a small chain of retail stores. What objectives can you envision for the project?

Sample Brainstorming Diagram

Defining Objectives

We probably all agree that it's pretty unlikely for NASA to express interest in our new sales system and project us to worldwide fame, but what if?

Now that you've identified some things that ideally would change as a result of the project, what will be the likely change or objective? Let's think about our sample project of a new sales computer program. Some likely objectives would be:

- Our sales will likely increase, making employees happier.
- Our customer service should get better, resulting in happier customers, and hopefully contributing to more sales.
- This may eventually give us the ability to expand.

Creating a Vision

Now let's narrow the focus down and create a vision statement. This statement should explain what will change and how it will change as a result of your project. It should also be attainable and worthwhile.

Project Goals

Setting Goals with SPIRIT

The Importance of Project Goals

Goals and objectives are important for a project's success. They are the heart of, and purpose for, creating a project. Each project you are working on has to make sense in terms of overall objectives of the organization, and benefit people in some way. You should be able to clearly describe the outcomes, deliverables, and benefits to stakeholders and end users. You must make certain your manager has described those goals to you in very clear terms. If that hasn't happened, go back to them for clarification.

SPIRIT Goals

Whatever system you use for setting goals, they should make sense in the work that you do and be memorable. We recommend that goals have SPIRIT!

Specific

Project goals should clearly outline the criteria you will use to evaluate your success in a particular project. These criteria include measuring time, costs, and resources to achieve your desired outcomes.

Prizes

Celebrate when you accomplish a goal! If the goal is long term, you can have prizes when various milestones are achieved.

Individual

All members of a team must be involved in goal setting. Find ways for them to link into the project and get motivated. To keep everyone involved, it might be useful to keep a goal chart on the wall.

Review

Project goals also need to be reviewed periodically to make sure you have consensus as you move from stage to stage in a project.

Inspiring

Goals should be high but achievable.

Time-Bound

Make sure that the deadline for the goal is clear.

Two Additional Criteria

When we are working on projects, we have additional criteria to remember, particularly that goals must be **agreed upon** and come with **clear responsibility**.

Using a Target Chart

A target chart can help you identify the biggest priorities in your project and help you see how to achieve your goals. It looks like this:

Objective	Indicator	Priority	Current Level	Target Level

First, we'll list our objectives. These are the items that, if achieved, will mean the project has been successful. Let's look at our new sales system project as an example.

Objective	Indicator	Priority	Current Level	Target Level
Better customer service				
Happier employees				
Improve sales				

These are all good objectives, but the first two are pretty vague. That's where the next column (Indicator) comes in. How will we tell if we've been successful or not?

Objective	Indicator	Priority	Current Level	Target Level
Better customer service	Less hotline traffic			
Happier employees	Turnover reduced			

Improve sales	More add-ons sold			

Now let's identify where these objectives fall in terms of priority on a scale of 1 to 10, with 1 being minimally important to the project's success and 10 being crucial.

Objective	Indicator	Priority	Current Level	Target Level
Better customer service	Less hotline traffic	6		
Happier employees	Turnover reduced	2		
Improve up-selling	More add-ons sold	10		

Once you've identified priorities, review your objectives. Are there any that we may want to drop? In the example above, making employees happier is minimally important to the success of the project. If this can be achieved with a small amount of work (or as the result of another objective being completed), that's fine. However, if this objective will take a significant amount of time and/or resources, we may want to save it for another project.

Now we should note the current level of performance for each objective and where we would like to be.

Objective	Indicator	Priority	Current Level	Target Level
Better customer service	Less hotline traffic	6	10 per week	2 per week
Happier employees	Turnover reduced	2	Averaging 3 per month	Less than 1 per month
Improve sales	More add-ons sold	10	$40,000 per month	$100,000 per month

This chart should be posted where all project members can see it, to keep everyone on track.

Preparing Your Project

Things to Consider

Once you have decided which project to promote to others, there are some considerations you want to be prepared for.

Laying Out the Project

The Statement of Work

The terms Project Charter and Project Statement of Work (SOW) are often used interchangeably. Many companies use the word Charter to refer to the document that is actually the SOW.

The Project Management Institute (PMI) uses the term **Charter** to refer to the announcement that recognizes the authority of the project manager. The **SOW**, on the other hand, is the formal project definition document. This is an important distinction between the two.
The Statement of Work is a formal project management document that establishes expectations and agreements about the project. It is not a contract; it is a tool for clarifying responsibilities and working relationships among project stakeholders.
As they work on their Statement of Work, it becomes an opportunity for individual members of the team to see if they truly understand their project. A SOW can be anywhere from one or two to 100 pages long.

The usual minimum of a SOW includes the following elements.

Defined Purpose

Why are we doing this project? The answer to this question should be clearly spelled out in this section. In addition, the business case for the project is referenced but not necessarily detailed. (If you need a business case for a project it is typically done in a separate document, often called a cost-benefit analysis.)

Statement of Scope

What is included in this project? The statement of scope clearly describes what the project will include and any items that are seen as potentially involved but are not part of the project, or are "out of scope." This statement is essential for the project to stay on track and budget, since other tasks, or even projects, can be related and project teams may try to delegate functions to your own project (which will put you beyond scope and probably over budget!).

How big is this project?

Sometimes little projects, like moving offices within the same building, lead to bigger projects, like reorganizing workflow and changing storage methods. Be prepared for "project creep." Anyone who has ever done a home renovation project knows about project creep. (You wanted a new railing on the back steps but before you could put on the railing, the step had to be repaired and painted. Then when you started to repair the step you realized it would be better to use cedar rather than spruce, so the whole step had to be torn apart. Once the step had been rebuilt, and you got the railing on, you realized the whole thing needed a coat of paint, and since you were going to paint the step and the railing, you might as well do the whole deck, and…)

Project Deliverables

What results are we to achieve, or what are we to produce?

This helps focus the team on outcomes. It also helps individuals and sub-teams keep on track as they learn exactly what their deliverables are and when they are due. Intermediate and final deliverables should be mentioned by name. Even regular status reports, change requests, and other reports should be specified as part of the deliverables.

Goals and Objectives

Specific goals are listed, with larger goals broken into smaller goals that are all well-defined. This section will include measurement criteria, including budget criteria. (Example: New customer sales will increase by 25% within four months of introducing the new website.)

Make sure you include all aspects:

- Big Picture – Little Picture
- Corporate Goals – Departmental Goals
- Long Term Goals – Short Term Goals

SWOT

The SOW should also briefly review the big picture in terms of the organization's **Strengths, Weaknesses, Opportunities, and Threats** (SWOT).

The rationale for this is that projects, just like regular work, flow back into the organization in terms of what business we are in, where we are going, and how we are going to get there from here.

Cost and Schedule Estimates

Prepare a draft budget. This section provides rough but well-researched estimates of both the costs and the schedule for the project. You should be able to answer the questions, "How did you arrive at that figure for the budget?" and "How was the deadline determined?" in this section of the SOW.

Projects are often done in addition to regular work, so having an idea of how much time, materials, and other resources are required is a very smart move. A fairly simple way of getting an idea of costs is to figure out how much time will be required and how much that person's time costs per hour.

List of Stakeholders

Who will be involved? Here is where you identify all the key influencers such as managers, sponsors, etc. At a minimum, you should include the names and roles of the project manager, key project team members, the sponsor, managers with an interest in the project, and the customer contacts.

Authority Levels

This section has to define **who has authority for what**, and how the lines of supervision or delegation (or chain of command) have been established. This will help project team members understand the limits to their own authority, and who they need to approach for help. An organization chart or matrix that outlines the important roles and responsibilities of the project is also useful. This approach can avoid problems such as people deferring responsibility ("Oh, I thought so and so was doing that part") or becoming territorial about parts of the project.

Assumptions and Agreements

What prior assumptions and agreements are in place? Assumptions can limit the project, and so it is important that they are detailed here. Make sure you don't omit anything that could impact the project. Remember that for the project to be a success, all side agreements must be agreed to in the SOW.The Communication Plan

Who will we communicate to? What basic reports will be produced, and how often? What meetings will be held, particularly during the planning phase? Specify the frequency and audience of all meetings and status reports. Large projects may require more detailed communication plans.

The project manager will likely be in charge of formal communication. Who needs to know and who should be kept informed periodically? While you don't want to send information to people who won't know what you are talking about, omitting someone from the information loop is a great way to ruffle feathers unintentionally. Try not to do this.

Project Planning Worksheet

Basic Information
Name of Project: _____

Brief Description and Overall Benefits:

_____

_____

_____

_____

_____

Project Number: _____ **Priority Rating:** _____

Request Date: _____ **Other Reference Dates:** _____

Time Management
Time Targets: Start _____ **Finish** _____ **Accuracy** _____

Writing Reports

Often, you will need to prepare a number of reports while planning and executing your project. The purpose of a report is to convey information and ideas, and sometimes to make recommendations.

A good report is:

- Easy to understand
- Always clear
- As long as it needs to be (and no longer)
- Complete with all necessary information
- Correct

Four Stages in Report Writing

Investigation
Here the purpose of the report is clearly defined. Guided by this, all necessary and relevant information is collected.

Planning
Information is presented in a logical sequence. The basic structure of a report looks like this:

- Introduction
- Body or Discussion
- Conclusions
- Recommendations (if you have any)

Writing
Information and ideas are presented clearly, concisely, completely, and correctly, using simple words in short sentences. In essence, it is written for the reader.

Here are some layout tips:

- Use plenty of space.
- Use headings that reflect what the next section contains.
- First paragraph in each section/sub-section should extend or expand the heading, followed by short, crisp, readable paragraphs.
- State facts clearly, in an unbiased manner, and describe the sources and methods used.
- Use graphics and illustrations with captions.

Revising
Prior to final production, a thorough and relentless check is made of the first draft of the report. Check facts, length, organization, style, spelling, grammar, and punctuation.

Basic Formats

Indirect Approach

This approach presents the evidence in a more logical way, so that detailed recommendations come last. It is used when it is necessary to build your case, leading to controversial recommendations. A synopsis or executive summary is often used to highlight principal recommendations at the beginning of the report.

1. Executive Summary
   - Major results/findings
   - Principal recommendations
2. Introduction
   - Statement of the problem
   - Purpose of the report
   - Background
   - Methods used
   - Organization of the report
3. Body/Discussion
   - Results/findings
   - Analysis of results
   - Alternative solutions
4. Conclusions
   - Relate to body
   - Most important first
5. Recommendations
   - List in order of importance

Direct Approach

In this approach, you deliver your recommendations up front and save the summary for last.

1. Recommendations
2. Introduction
3. Body/Discussion
4. Conclusions
5. Executive Summary

Project Risk Management

Risk Tolerance Exercise

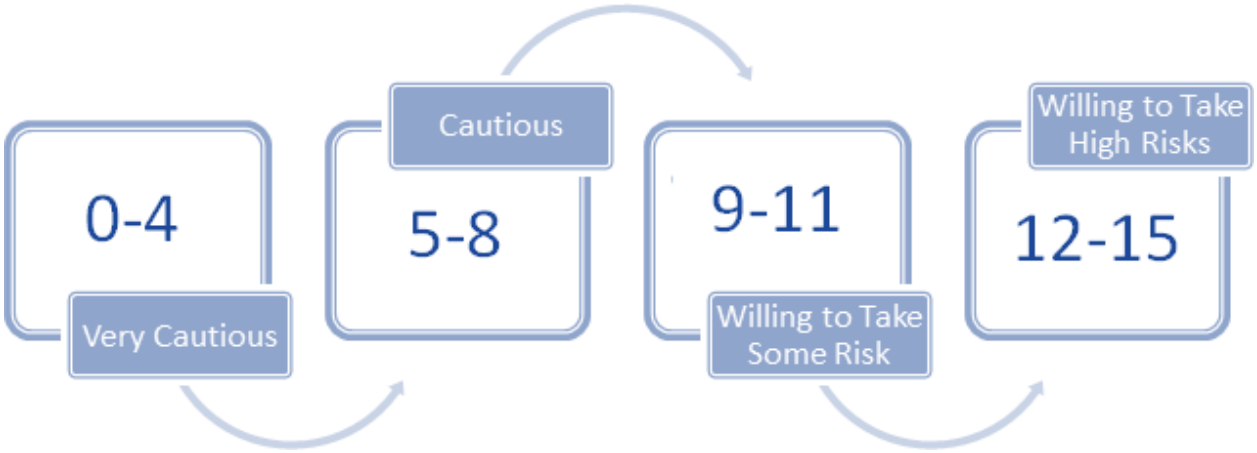
Read each description. Circle whether you agree or disagree with the description on the basis of your management work. Don't look for hidden or double meaning in the descriptions; your first reaction is probably your best.

1.	Taking chances makes sense if there are no low risk alternatives.	Agree	Disagree
2.	I generally prefer action over waiting.	Agree	Disagree
3.	I am able to recover from mistakes, even the really big ones.	Agree	Disagree
4.	I believe in helping new people develop their experience so they can succeed, rather than giving positions to people with more experience who refuse to try new ways of doing things.	Agree	Disagree
5.	I can accept things that are not done perfectly.	Agree	Disagree
6.	I believe in seizing opportunities when they arrive.	Agree	Disagree
7.	It is better to ask for permission beforehand than to beg for forgiveness afterward.	Agree	Disagree
8.	Success is 50% luck and 50% skill.	Agree	Disagree
9.	I prefer to be paid a set salary rather than paid for performance (or commission), which varies depending on my own efforts and results.	Agree	Disagree
10.	If things go really wrong I recover quickly because I know I did my best.	Agree	Disagree
11.	Mine and others' safety is more important than making more profit.	Agree	Disagree
12.	Repeated failure is a very long road to achievement.	Agree	Disagree
13.	I can tolerate ambiguity and uncertainty without difficulty.	Agree	Disagree
14.	I would rather fail than not try.	Agree	Disagree

15.	When I consider a decision where results are unclear, my greatest concern is for potential losses.	Agree	Disagree

Scoring

- Give yourself one point for each of the following statements with which you agree: 2, 3, 4, 5, 10, 13, 14.
- Give yourself one point for each of the following statements with which you disagree: 1, 6, 7, 8, 9, 11, 12, 15.
- Calculate your total.
- Plot your total on the risk scale.



About Risks

There are three types of risks:

- Known risks are those that you or your stakeholders (such as your manager) can identify from experience.
- Predictable risks are those that might occur. This is your instinct rather than something concrete that tells you to be on the lookout.
- Finally, there are the things that we just didn't count on—the stuff that happens. You simply can't predict everything.

The most common risks to be considered include:

- Funding: It may get cut or dry up.
- Time: Other projects may land on your desk at the same time.
- Staff: The people you were relying on get sick, quit, or are assigned to another project.
- Customer relations: You may have customers from other departments, or external customers, whose needs conflict with this project.
- Project size or complexity: The project gets more complex than originally intended.
- External factors (such as weather).

Risk has two characteristics:

- Uncertainty: May or may not happen.
- Loss: An event has unwanted consequences.

Reducing Risks

Project managers plan for risk. They must:

- Identify potential problems and confront them before they occur. It is easier and cheaper before they are problems or before a crisis exists.
- Focus on the project's goals and look for things that may affect quality throughout the lifecycle.
- Identify potential problems early in the planning cycle.
- Involve personnel at all levels of the project.

Sources of Risk

Possible sources of risks include:

- Funding/Budget
- Time/Schedule
- Customer relations
- Project size or complexity
- People/Staff:
  - Are they available?
  - Are they committed?
  - Are they skilled?
  - Do they know what is required of them?
- Technological:
  - Is the technology proven?
  - Is it reliable?
  - Is it available?
  - Is it understood?
- Political:
  - Is the need for the project agreed on?
  - Does the sponsor control the stakeholder group?
  - Are negative stakeholders influential?
  - Is communication with stakeholders good?
- Financial: Am I in control of project funds?
- Contractual/Legal: Am I, or is my company, contractually or legally liable for the failure of the project?
- Physical: Are there any physical risks inherent in undertaking the project tasks?
- Environmental:
  - How can the weather affect my project?
  - What geological factors might put my project's success at risk?
- Facilities and equipment

Constraints

Constraints that can bring great projects down to earth fast include answers to questions like these:

- How much money is really available and when?
- When must the project be completed?
- What inside (internal) resources are required?
- What outside (external) resources are required? Can you afford them?
- Can you get consensus among project members and stakeholders that the project is important and deserves your time and attention?
- What are you willing to settle for that will still meet your needs? Is there a way to do it cheaper or with fewer resources?

Then the constraints come down to the following issues:

- The budget
- The schedule
- The people
- The world beyond
- Facilities and equipment

All of these constraints should be well documented in your SOW.

Contingency Planning

Contingency planning is planning for a course of events that is other than what we want or expect. This is based on three beliefs:

- Something is always waiting to go wrong
- What will go wrong will be what you least expect
- It will hit harder than you thought possible

Contingency planning is a skill that has saved careers. The elaborateness of the contingency plan will depend on how likely it is something will go wrong, and how risky it will be not to have a back-up plan.

Components of a Contingency Plan
When?

- How will we know when the unwanted event will happen?
- What will alarms look like?
- When should we start acting?

Who?

- Who has responsibility for this event?
- What other resources might they need?
- Who else should be informed?

What?

- What will happen when the event occurs?
- What will we do when the event happens? (Depending on the event, this plan could be very detailed or very simple. A step-by-step, timed plan may be necessary.)
- What consequences could the event have?
- What other risks might this event create?

Where?

- Where is the risk going to happen?

Further Reading:

- ✓ ***Fundamentals of Project Management,(2012), By Joseph HEAGNEY***
- ✓ ***Fundamentals of Project Management,(2004), By Joseph HEAGNEY***