Post Workshop Participant Commitment

Date: _____

Participant Name: _____

Workshop Name: _____

Manager Name: _____

What did you fully grasp that you will incorporate into how you work from now on?

_____

_____

_____

_____

_____

_____

What was unclear and/or what do you want to know more about?

_____

_____

_____

_____

_____

_____

What specific activities will you perform upon your return to work?

1. _____
2. _____
3. _____
4. _____
5. _____

Fast Start® in Project Management

PERFORMANCE BOOSTER

Hello JOHN,

Thank you for your participation in Fast Start® in Project Management. As I mentioned in the workshop, you will be receiving a series of e-mail messages to reinforce key points we discussed. Each is designed to help you apply the learning to everyday situations. If you have any questions, let me know. Thanks.

Jane Doe

1 Key Point

Horizon Planning: The plan is a view of a project at a particular point in time. Therefore, the plan must be updated periodically to reflect the project's current reality.

2 Discussions

JOHN, it's not a matter of if change will occur; it's a matter of when and how often. How will you handle change when the reality of Horizon Planning hits?

A change control plan provides a roadmap for responding to change. Keep in mind that changes may occur to the time, cost, or scope of your project. Changes to one side of the triangle will impact at least one of the others.

The change and its impacts must be reflected in your project plan. You've just reached a new horizon!

Change is not the exception; it's the rule. Navigate the principle of Horizon Planning, and you will increase your ability to deliver successfully.

3 This Week

JOHN, do your key stakeholders understand the concept of Horizon Planning, the Project Management Triangle, and Change Control? If not, consider talking about it with them this week. When the inevitable changes occur, your stakeholders will be more supportive and receptive to the consequences of change if they understand these concepts ahead of time.

Have a great week JOHN!

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Jane Doe

1 Key Point

Social Styles: People are not totally unpredictable. Use your understanding of Tracom's Social Style Model(tm) to improve your effectiveness.

2 Discussions

Remember the Social Style Model(tm) exercise we did in class.

We talked about how each person has ways in which they prefer to communicate, work, and interact. You can gain some insight into those preferences by observing their behaviors.

To maximize your effectiveness, you need to understand your dominant Social Style. When working with others, communicate with them in a way that is consistent with their Social Style. This versatility encourages more positive interactions as people tend to feel more comfortable with someone whose Social Style aligns with their own.

People are not totally unpredictable. Use your understanding of Social Styles to improve your effectiveness.

3 This Week

JOHN, can you think of someone you are having trouble getting along with on a project? Identify their Social Style. What are some different approaches you could use when interacting with them?

Remember, every Social Style has its strengths and challenges. What can you do to minimize the challenges of your Social Style?

Have a great week JOHN!

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Jane Doe

1 Key Point

Communication Planning: Effective communications are critical for project success.

2 Discussions

Keeping stakeholders in the loop is critical when managing both the project and others' expectations. Don't put them in the position of asking, "What's going on, JOHN?"

The communication process has all kinds of opportunities to breakdown. If your team is in a virtual environment, those breakdown opportunities are compounded.

Putting together a communication plan is a powerful way to define upfront how you and your team will do a stellar job of communicating. It truly is a key factor in your project's success.

3 This Week

Building a communication plan is your chance to shine. It sets a standard for how you will keep key stakeholders in the loop. If you haven't done it yet, build a communication plan this week for your current project(s). Don't forget to document how your team members are expected to update you on such things as their progress and status.

Also, are you and your team defaulting to e-mail communications too often? E-mail cannot communicate the richness of body language and tone of voice no matter how many smiley faces you use. Talk with your team about how you can work together to improve the communication plan of your project.

Have a great week, JOHN!

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Jane Doe

1 Key Point

Risk Management: Use risk management to minimize future surprises. Projects and their outcomes are already uncertain enough.

2 Discussions

Any risk on your project, JOHN?

Risk management cannot remove all risks from your project, but it can prepare you to deal more effectively with uncertainty when it pops up.

Risks are uncertainties that can positively or negatively impact the project's progress. Identifying risks as a team and calculating a risk score for each of the risks you've identified, helps you focus on the most important ones. Risk response planning enables you to proactively manage those risks.

Risk management allows you to proactively influence the project and its environment instead of reacting to everything as it comes. Use it to minimize future surprises.

3 This Week

Do you have a risk management plan for your current project? If not, take time to create one this week. If you do have a risk management plan, make sure it's been reviewed and updated in the last week.

Remember JOHN, your team can provide valuable insight to risk. Involve them. Teach them how to proactively manage risks. Make reviewing the project risk plan a regular agenda item for your project meetings.

Have a great week JOHN!

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Jane Doe

1 Key Point

Managing Expectations: Increase your ability to successfully deliver the project by managing stakeholder expectations.

2 Discussions

When it comes to projects, nobody likes surprises.

Keeping the necessary people in the loop can be a real challenge, but it's critical to your ability to successfully deliver.

Start with the project's charter and scope definition statement. Make sure that stakeholders have the opportunity to review these documents so they understand the project's assumptions, exclusions, benefits, and constraints.

Then, live up to the expectations you set with your communication plan. Make sure your roles and responsibilities documentation is up to date. Proactively network with your stakeholders.

Stakeholders can adapt to changes when their expectations are managed well.

3 This Week

JOHN, think through the list of stakeholders on your current project. Have you communicated with them in the last two weeks? Even if your communication plan doesn't require it, plan a way to touch base with those stakeholders this week. Use this opportunity to manage their expectations on the project.

In addition, have you removed some scope from your project recently? Perhaps you've made a key decision that might impact a stakeholder who doesn't know it yet. Take time this week to get the necessary stakeholders up to speed.

Have a great week JOHN!

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Jane Doe

1 Key Point

Project Control: Exercise day-to-day control over the project. Remember, a project becomes three months late, one day at a time!

2 Discussions

Developing a project schedule just so you have a pretty picture for a management meeting is not day to day control of the project. After taking time to develop the project schedule, use it to help you stay on track.

Update the project schedule each time new information becomes available, whether that information is task progress, new tasks, or revised estimates.

Keep a close eye on the critical path. If time or cost is getting too far from the baseline, or if a new requirement is introduced, make sure to enact your change control process. Day-to-day control is a critical success factor for your project. This will keep you from getting significantly off track.

3 This Week

JOHN, are you getting accurate progress reports from your team in terms of "actuals?"

Knowing how much time a task actually takes helps you in several ways. You know how your critical path and float time are being impacted, and you have a basis for better estimates in the future. Take time this week to encourage your team to provide actuals for their tasks and be sure that the schedule is up to date.

Have a great week JOHN!

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Jane Doe

1 Key Point

Work Breakdown Structure: The Work Breakdown Structure (WBS) is central to project planning and project control. Once a WBS has been constructed a complete activity list can be generated that reveals all of the activities necessary to complete the deliverables and subdeliverables.

2 Discussions

Projects can be overwhelming when looked at as a whole. By decomposing the project using a Work Breakdown Structure (WBS) and then developing the associated activity list, projects become more manageable.

Even less overwhelming projects can benefit from a WBS and activity list. Not all schedules slip due to poor estimating alone, some slip because tasks are left out.

A WBS and activity list helps you:
- See more clearly what skills are necessary to complete the project.

- Estimate the project more accurately.

- Identify dependencies.

Remember: Don't focus on timing or sequences yet. Involve team members to get a more complete understanding of the activities. Include all the work necessary for the project. Consider using sticky notes to help others visualize the total project scope.

JOHN, resist the temptation to side step the building of a WBS by simply jumping into your scheduling tool. The WBS is central to your project planning and control.

3 This Week

If your project planning is just getting underway, pull your core team together this week to create a WBS.

If your project is already underway, have you been discovering missing activities or finding that activities are too big to track and control? The WBS technique we used in the workshop is a great way to review and revise your project"s current WBS. Remember to reflect the new WBS in your schedule and project documentation.

Have a great week JOHN!

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Jane Doe

1 Key Point

Critical Path: The sequence of tasks that forms the longest duration of the project. Any task that lies on the critical path, if delayed, will delay the entire project.

2 Discussions

After you build your Work Breakdown Structure (WBS) the next step is to sequence and schedule the tasks. This process helps you identify dependencies between tasks, allowing you to see what can, and cannot, be done in parallel.

JOHN, remember how we did this in class?

Building a network diagram helps you discover your project's critical path. Though you thankfully won't be doing those forward and backward pass calculations by hand, you now know that understanding the critical path is fundamentally important to managing your project well.

As you recall, any task that slips on the critical path delays the entire project.

Whether with sticky notes or in a tool such as Microsoft Project, take the time to sequence an accurate network diagram. Use the power of the tool to calculate your critical path. Then keep a close eye on the critical path as your project progresses. This will help you keep your project on track.

3 This Week

Double-check all the tasks on your project's critical path. If you are executing a project with an out-of-date project schedule, don't let another week go by without getting it updated. Keep an eye on the critical path each time the schedule changes.

Have a great week JOHN!

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Jane Doe

1 Key Point

Scope Definition Statement: Defining the project's scope is vital to successful project delivery and can prevent scope creep as the project proceeds.

2 Discussions

"So, what's actually included in your project, JOHN?"

That's a question you need to be able to answer crisply. The project scope statement helps you do that.

A good scope statement articulates what the project is to produce, and the product acceptance criteria. It defines the project through clearly articulated deliverables, exclusions, constraints, and assumptions.

Use the scope definition statement to manage stakeholder expectations and get their buy-in, which helps them support the project from start to finish.

A well-defined scope and a solid change control process will aid in preventing "scope creep" and keep the team focused on the work to be done.

3 This Week

If we asked your project sponsor, your key stakeholders, and your team about the scope of a current project, how accurate would their responses reflect the actual scope of the project?

If you're leading a project that has not yet been formally documented and approved, meet with your sponsor this week to do so.

If the scope has been formally documented and approved but you are not feeling comfortable about the direction of the project, take time this week to discuss the matter with your sponsor and take appropriate steps to update the scope if necessary. Be sure to update your project plan and then use it to communicate changes to your team and key stakeholders.

Have a great week JOHN!

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Jane Doe

1 Key Point

Estimating the Project: Be able to justify your estimates by using proven estimating techniques. Remember, WAG and SWAG are not solid estimating techniques.

2 Discussions

"How long will that task take?"

We're asked to estimate all the time. Coming up with realistic estimates and schedules is challenging.

Using proven estimating techniques and involving your team in the estimating process can improve accuracy. It can also improve stakeholder buy-in on estimates as they see more effort put into them. Remember to document the assumptions that you use when estimating the effort of a task. Then, once the task is complete and you know the actual effort spent, you have a basis to analyze why the estimate was accurate or inaccurate.

No more WAG or SWAG, JOHN!

3 This Week

Did your team members have the opportunity to estimate the tasks to which they have been assigned? If not, take this week to provide them with an opportunity to review the estimates. This tactic will increase team member buy-in to their assignments and provide you with a more accurate project schedule.

If your project is underway, that's OK! This week could be a good time to review the estimates of upcoming tasks based on what you and your team now know about the project.

Have a great week JOHN!

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Jane Doe

1 Key Point

Closing the Project: The closing process group of the project management process is often overlooked. Don't discount its value.

2 Discussions

A project close out can provide you with invaluable information about this project and upcoming projects.

By summarizing the lessons learned, the team can leverage the positive results and minimize the negative on future projects. Summarizing the project statistics, actual hours, dollars, and milestone delivery dates in comparison to baseline, provides a snapshot of the project. Measuring the objectives from the scope definition statement indicates how successful the team was in its charge.

Don't minimize the value of closing well. It will help you on projects in the future!

3 This Week

JOHN does your project schedule allocate time for closing out the project? Sometimes we don't close projects because we didn't schedule time to do so.

If you don't have time in your schedule to close your project, take time this week to add it. If your project is large, consider using a close out process at the completion of phases or major milestones. Closing out a project doesn't have to take much time, but it will have a multitude of returns.

Speaking of closing out, JOHN, this is your last email message for Fast Start® in Project Management. I hope they helped you apply the concepts and enhanced your ability to achieve results. If you have comments, please let me know. Thank you.

Jane Doe

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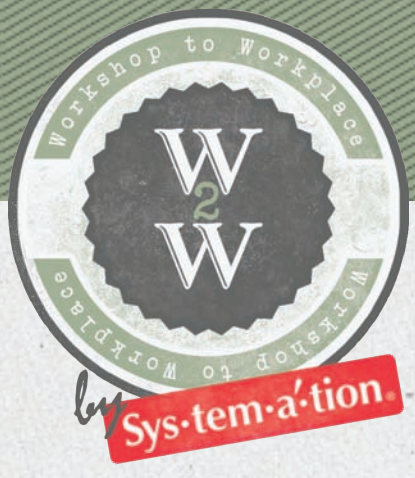
Manager Support Packet



Fast Start® in Project Management

Getting Started

One or more of the employees you supervise just attended Systemation's *Fast Start® in Project Management* workshop. The goal of all training is to improve an individual's on-the-job performance. We're sure that was your goal when you approved training for these individuals. That is also our goal for each participant who attends one of Systemation's workshops.

In environments were individuals are held accountable for implementing new behaviors learned in the classroom, the degree of performance improvement is much greater. This support package is designed to help you do just that with your employees who just participated in *Fast Start® in Project Management*.

The first part of this packet lists key **new behaviors** learned in *Fast Start® in Project Management*. Along with each new behavior we have also provided a list of questions to ask employees in order to identify whether or not they are practicing the new behaviors. The second part of this packet is a portion of the training materials used in the classroom related to the **key learning points** for each of the new behaviors. Use this part of the packet to familiarize yourself with the concepts related to the new behaviors.

We wish you all the best in helping your employees realize the benefits of their training experience.

New Behaviors

Develops a project plan at the beginning of the project that captures the scope, time and cost baseline.

- Did you develop a project plan at the beginning of the project?
- How many objectives do you have?
- What is your triangle flexibility position?
- Did you identify all the stakeholders, both positive and negative?
- What deliverable did you list?
- Have you recorded the time and cost aspects of the baseline?

Develops a WBS for the project that defines the lower level tasks. Revises the WBS regularly as the project progresses.

- Did you develop a work breakdown structure at the beginning of the project?
- When was the last time you updated it?
- What is the size of the lower level activities?
- What portion of the WBS are you most unsure of?
- When was the last time you reviewed and modified your tasks based on current realities?

Identifies dependencies between tasks ensuring all of them have a predecessor and successor task or milestone.

- How did you record your task dependencies?
- When was the last time you reviewed and modified your dependencies based on current realities?

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Estimates the duration for each of the tasks, the dates each task should start and finish, and the critical path based on task dependencies. Revises and updates as the project progresses.

- Were task durations driven by effort and resources; or by duration only?
- Did you use any unique estimating approaches?
- When was the last time you reviewed and modified your estimates based on current realities?

Develops a communication plan at the beginning of the project that includes all communication items.

- Did you develop a communication plan at the beginning of the project?
- Are you communicating your risk register and issues log to anyone?
- Who is getting weekly status reports?
- How do you communicate to your team what needs to be worked on next week?
- How do you receive updates from you team on last week's activities?

Modifies the project baseline only after going through the change control process.

- What changes to the baseline have been requested to date?
- Did a change request get generated?
- Were impacts identified for time, cost, or scope?
- Who approved the changes?
- Do you have a change log listing each of the approved changes?

Develops a risk register that includes analysis and response planning.

- Did you develop a risk register at the beginning of the project?
- What were your highest priority risks?
- What approach did you use to respond to them?

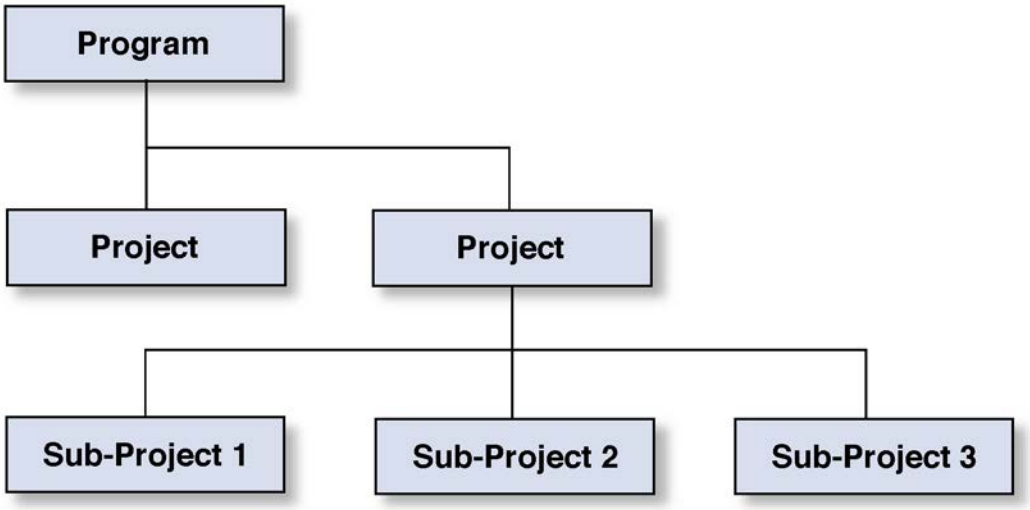
Key Learning Points

Fast Start® in Project Management

General PM Concepts

Programs

An organization's strategic plans may be divided into a hierarchy of programs, projects, and sub-projects. Sometimes these programs and projects may be grouped by portfolio. Project management concepts can be applied at each of these levels to manage the work.



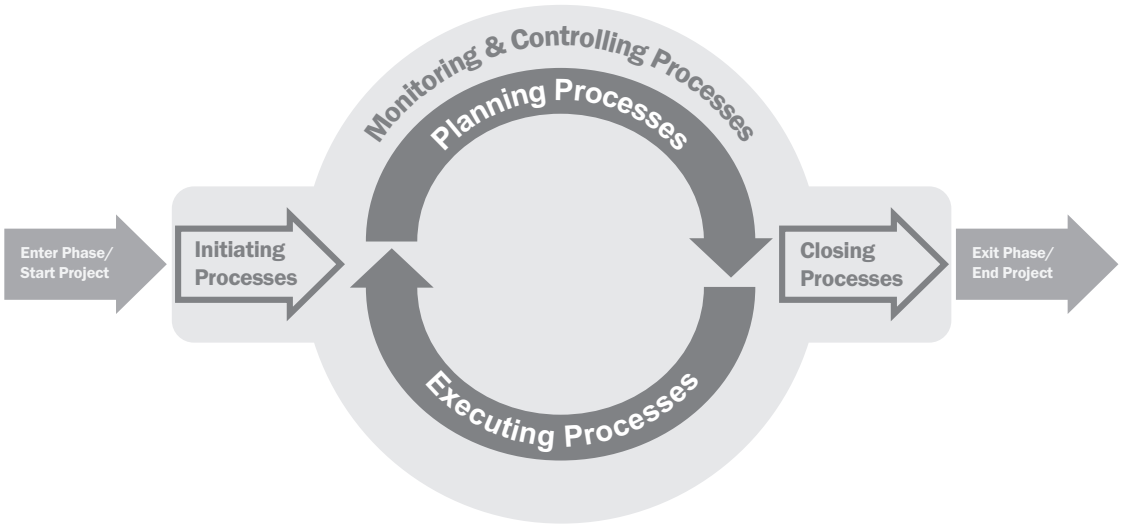
A program is a group of related projects managed in a coordinated way to obtain benefits and control not available from managing them individually. Programs may also involve a series of repetitive or cyclical undertakings. Applied at the program level, project management is referred to as "program management" and focuses on achieving the program's strategic objectives and benefits.

A Program:

A group of related projects, subprograms, and program activities managed in a coordinated way to obtain benefits and control not available from managing them individually.

The Project Management Process

A process is any group of sequential or iterative activities designed to produce a desired result. The project management process is iterative and concerned with describing, organizing, and controlling the work of a project. It consists of five process groups, as illustrated and defined below:



Project Management Process Groups, *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)* - Fifth Edition. ©2013 Project Management Institute, Inc. All Rights Reserved.

- **Initiating Process Group** — Those processes performed to define a new project or a new phase of an existing project by obtaining authorization to start the project or phase.
- **Planning Process Group** — Those processes required to establish the scope of the project, refine the objectives, and define the course of action required to attain the objectives that the project was undertaken to achieve.
- **Executing Process Group** — Those processes performed to complete the work defined in the project management plan to satisfy the project specifications.
- **Monitoring and Controlling Process Group** — Those processes required to track, review, and regulate the progress and performance of the project; identify any areas in which changes to the plan are required; and initiate the corresponding changes.
- **Closing Process Group** — Those processes performed to finalize all activities across all process groups to formally close the project or phase.

Fast Start® in Project Management

So What is Project Management?

Projects, because they are unique, generally involve some risk. To minimize the risk to the organization, and to achieve the greatest possible benefit, it is helpful to have a process for ensuring a successful outcome.

Therefore, we can define project management as:

Project Management:

The application of knowledge, skills, tools, and techniques to project activities to meet project requirements.

Project management typically involves the following:

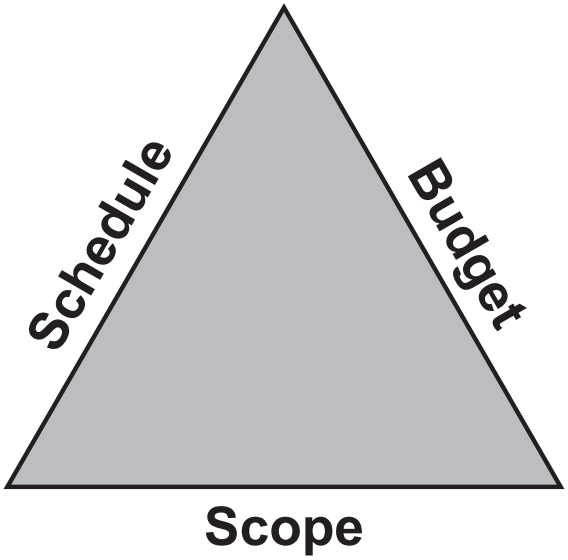
- Identifying requirements.
- Addressing the various needs, concerns, and expectations of the stakeholders as the project is planned and executed.
- Setting up, maintaining, and carrying out communications among stakeholders that are active, effective, and collaborative in nature.
- Managing stakeholders towards meeting project requirements and creating project deliverables.
- Balancing the competing project constraints including, but not limited to:
- Scope
- Quality
- Schedule
- Budget
- Resources
- Risk

Overall, project management is a managerial approach that can be applied to the management of projects and the management of some operations that are redefined as projects. For example, project management can be used to oversee the development of a new product; but it can also be used to oversee regular maintenance operations that are "batched" into "projects."

The Project Management Triangle

Project Success depends on many factors. When managing a project, the project manager must keep in mind the six constraints of scope, time, budget, quality, resources, and risk. The project manager must carefully balance these constraints to ensure project success.

In the past, three of these constraints (scope, schedule, and budget) were shown in a triangular form called the triple constraints of project management or sometimes referred to as the project management triangle. If one of these constraints had to change during the project life cycle, the other constraints would require adjustment. For example, if the scope of the project was increased, both the schedule and the budget could require adjustment. Making sure that these constraints stayed properly balanced was an essential factor affecting project success.



Today, project management is a science of making intelligent trade-offs not only against scope, schedule, and budget, but also against the other constraints of quality, resources, and risk. In some organizations, constraints are now shown via a hexagon that lists all six constraints. The trade-offs that need to be made should be done carefully and in the best interest of the project.

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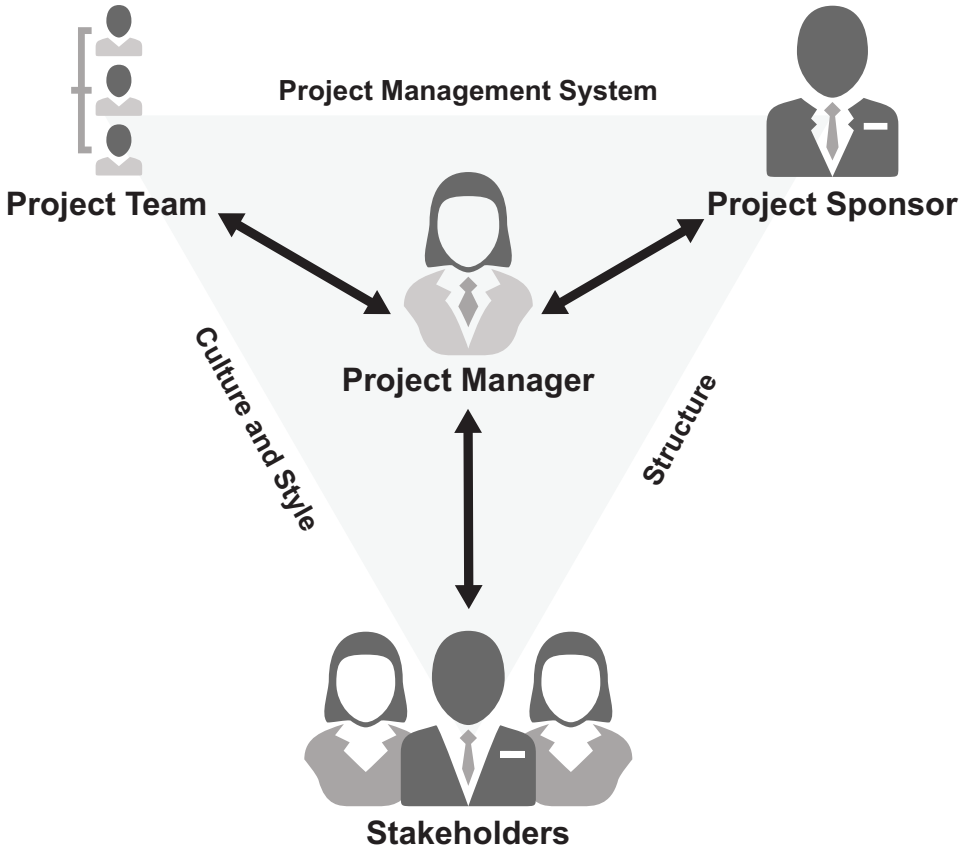
The Project Environment

Projects do not occur in a vacuum. Instead, they take place in organizations that have distinct cultures, structures, and systems. Each of these factors influences the project and its success.



Culture and Style

The culture and style of the organization consists of its collective norms, standards, and behaviors. It reflects and also shapes organizational values and attitudes. Some organizations have a culture that actively supports project management. They grant project managers significant autonomy and authority to make decisions. Other organizations may have cultures that are neutral toward project management or even hostile to it. For example, in some organizations, rewards are given to people who are considered active, rather than those who take the time to plan carefully. This may result in "crisis management," where people are rewarded for "firefighting," while those people who work thoughtfully behind the scenes to prevent fires are ignored.

Project Plan

Components of the Project Management Plan

These components help to identify "what" it is you are going to do. Note that many organizations include some or all of these items in the project charter document.

- A project charter (created in initiation)
- A project scope statement (preliminary project scope statement may have been created in initiation)

These components help to identify "how" you are going to do it:

- Project approach
- A work breakdown structure (WBS) that decomposes the project into a hierarchical diagram
- Estimates of activity times and costs
- Sequence of activities required to achieve the objectives
- A project schedule
- Key milestones
- Identification of required resources (people, equipment, etc.)
- Subsidiary management plans for scope, requirements, schedule, cost, quality, process improvement, human resources, change, communication, risk, procurement, and stakeholders
- Analysis of key risks to the project
- Baseline for scope, schedule, and cost
- Key management reviews

Planning consists of many processes and results in many components. However, this does not mean that project management is primarily planning. Keep in mind that the amount of planning should align with the scope and needs of the project. In other words, more complex projects require more depth and breadth of planning than do simple and straightforward projects.

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Project Charter

The project charter is created by the initiator or the project management team based on contracts, Statements of Work (SOW), business needs and feasibility analysis, and other information. The charter is then authorized by a manager external to the project, usually the project sponsor. It is particularly helpful if that manager is at a high enough level to be able to authorize the resources needed by the project.

Project Charter:

A document issued by the project initiator or sponsor that formally authorizes the existence of a project, and provides the project manager with the authority to apply organizational resources to project activities.

Organizations tend to vary in the characteristics and content of the project charters. This is due to the various "hot buttons" that are unique to each organization.

According to the "Guide to the Project Management Body of Knowledge", a typical charter documents the business needs, assumptions, constraints, current understanding of the customer's needs, and the new product, service, or result that it is intended to satisfy, such as:

- High-level project description
- Project purpose or justification
- Measurable project objectives and related success criteria
- High-level requirements
- Assumptions and constraints
- High-level risks
- Summary milestone schedule
- Summary budget
- Stakeholder List
- Project approval requirements (what constitutes project success, who decides the project is successful, and who signs-off on the project)
- Assigned project manager, responsibility and authority level
- Name and authority of the sponsor or other person(s) authorizing the project charter

Project Scope Statement

Project scope is defined by a scope statement, which makes clear the boundaries of the project. This statement specifies what the project will provide and contains criteria that allow the project manager and other stakeholders to identify whether a project or project phase has been completed successfully. Project teams may develop multiple scope statements that define the levels or components of work to be done by sub-teams on a particular project.

At a minimum, the project scope statement includes:

- **Product scope description** — Progressively elaborates the characteristics of the product, service or result described in the project charter and requirements documentation. This description specifies sufficient detail to bound scope of the project. It will get into details of features and functions that characterize the product, service or result.
- **Product acceptance criteria** — Defines the process and criteria for accepting completed products, services, or results. What must be completed or proven before the customer/user accepts that the project is finished. Defining this information during planning manages expectations and prevents surprises later during the execution of the project.
- **Project deliverables** — Deliverables include both the outputs that comprise the product or service of the project, as well as ancillary results, such as project management reports and documentation.
- **Project exclusions** — Generally identifies what is excluded from the project. Explicitly stating what is out of scope for the project helps to manage stakeholders' expectations.
- **Project constraints** — Lists and describes the specific project constraints associated with the project scope that limits the team's options. Examples might be a set budget or a mandated completion date.
- **Project assumptions** — Lists and describes the specific project assumptions associated with the project scope and the potential impact of those assumptions if they prove to be false.

Work Breakdown Package

Decomposition Using a Work Breakdown Structure

The standard way of defining and organizing the work of a project is called the work breakdown structure, or WBS. The WBS is a hierarchical diagram of the project's deliverables and sub-deliverables.

Work Breakdown Structure:

A hierarchical decomposition of the total scope of work to be carried out by the project team to accomplish the project objectives and create the required deliverables.

The WBS provides a visual means to describe the deliverables and sub-deliverables of the project. It is typically represented as a tree diagram or an outline. Each descending layer of the WBS represents an increasingly detailed description of the components of the project.

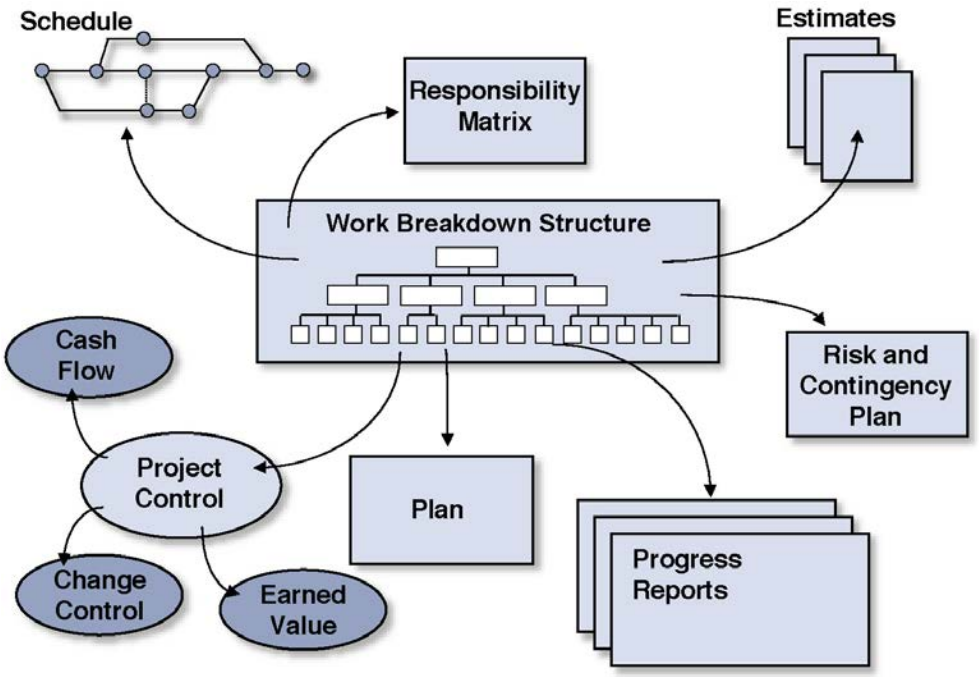
The Work Breakdown Structure shows all of the elements of the project, not just the most obvious. If the WBS focuses only on the obvious components, significant portions of the project will be missed. Therefore, it is important to define every component that is to be included in the project, as work not defined in the WBS is considered to be outside the scope of the project. The WBS can then be used to confirm stakeholder understanding of the project scope.

Benefits of the Work Breakdown Structure

The WBS is a graphical technique for analyzing and organizing the resources involved in a project. It provides a quick and visual way to logically subdivide all of the elements of a project.

This can benefit the Project Manager by defining:

- What is within the scope of the project.
- What is not in the scope of the project.
- The activities to be performed.
- The resources required for the project.
- The cost and time estimates for the project.
- The risks of the project.
- The project schedule.
- Project control issues.



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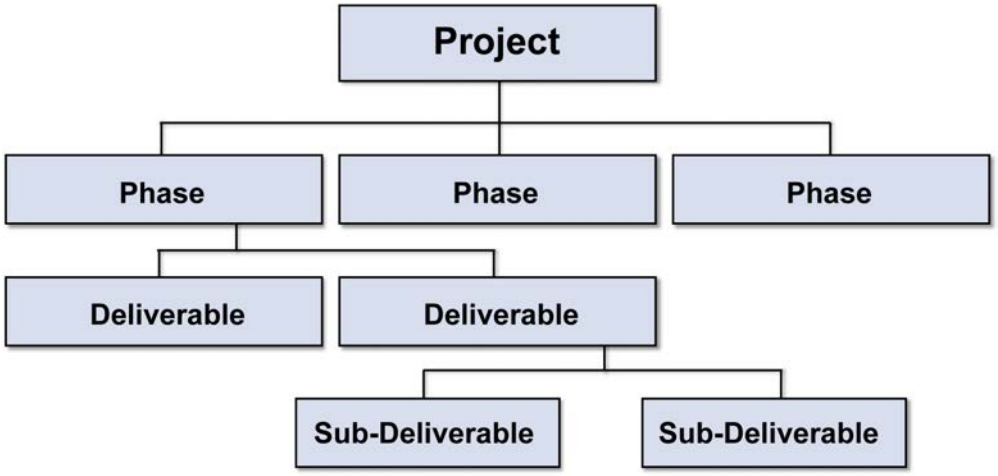
Work Breakdown Structure Hierarchy

The WBS does not focus on timing or sequence of the project work. It focuses primarily on structure and hierarchy of major deliverables and their components.

However, the major deliverables should always be defined in terms of how the project will actually be organized. For example, if an organization uses a project life cycle comprised of phases, the WBS will illustrate deliverables grouped into their respective phases.



Activity Definition

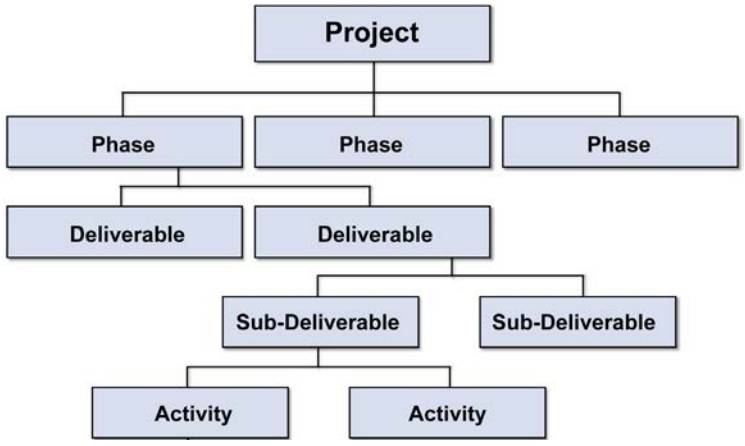
In order to estimate work and determine the resources required to do the work, the activities associated with producing the deliverables and sub-deliverables in the WBS must be defined. The output of this definition is called an activity list. This activity list is a documented tabulation that shows the activity description, activity identifier (a unique numeric or text identification assigned to each activity to differentiate it from other activities), and a sufficiently detailed scope of work description so the project team members understand what work is to be performed.

The WBS format can be used to further decompose the project scope and carry out activity definition. The activities identified during activity definition will comprise the project manager's activity list, and activities will be assigned to project team members. The activity list, WBS and WBS dictionary can be developed either sequentially or concurrently with the WBS and WBS dictionary as the basis for development of the final activity list.

Activity:

A distinct, scheduled portion of work performed during the course of a project.

During activity definition, the work packages in the WBS are broken down into the specific activities that must be performed to create the deliverables of each work package.



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Activities

An activity normally has:

- An expected duration
- An expected cost
- Expected resource requirements

Complex activities can be further decomposed until a level of detail is obtained that meets the following characteristics:

- Has a clearly defined beginning and end
- Takes measurable effort
- Creates an output or deliverable
- Is assigned to an individual or group
- Can be completed in a reasonably short time period (approximately 40 hours of effort)
- Provides sufficient detail for monitoring and controlling the activity

Sequencing and Scheduling

Neither the work breakdown structure nor the activity list shows the sequence of events that must occur in the project. Nor do they show the schedule for the project — when the activities must start and end. This module investigates tools and techniques to sequence and schedule the work of the project.

Sequence Activities:

The process of identifying and documenting relationships among the project activities.

Develop Schedule:

The process of analyzing activity sequences, durations, resource requirements, and schedule constraints to create the project schedule model.

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Determining Sequence and Schedule

To sequence the project work, you will need to know…

- Activity list or WBS to understand the work to be done.
- Product description to verify that all work that must be done is noted to deliver the final product.
- Mandatory dependencies, which are inherent in the type of project. For example, the roof of a house cannot be installed before the structure is framed.
- Discretionary dependencies, which are used at the preference of the project management team. For example, an organization may have best practices that it chooses to follow.
- External dependencies, which indicate work that must be done outside the project team in order for the project to be accomplished.
- Milestones that the project manager will measure and report progress against.

To determine the project schedule, you will need to understand and know…

- The network diagram
- Any project lead and lag times
- Resource requirements and project team member calendars
- Activity duration estimates
- Constraints
- Assumptions

We will now look at these components in further detail.

Project Schedule Network Diagram

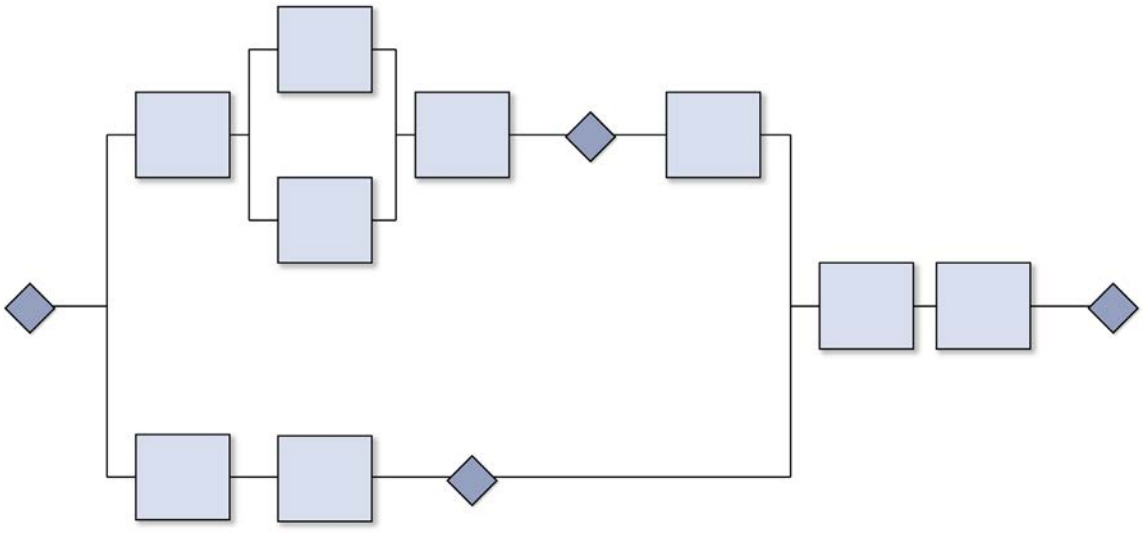
The network diagram, in project management terms, is a tried and true way to organize and sequence the activities of the project. Every project should have a network diagram, no matter how simple or complex it may be. The network diagram may be hand-drawn or generated using one of the many project management software tools. It is always drawn from left to right to reflect the project chronology.

Project Schedule Network Diagram:

A graphical representation of the logical relationships among the project schedule activities.

If properly sequenced, the network diagram:

- Identifies relationships among activities in different parts of the activity list or WBS.
- Establishes the basis for scheduling the project.
- Provides a powerful communication tool for the project team members.



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Dependencies

Activities in a project do not stand alone — they have relationships with other activities. We refer to these relationships as dependencies.

Dependencies:

A logical relationship between two project schedule activities, or between a project schedule activity and a schedule milestone.

Dependencies can be characterized by the following attributes: mandatory versus discretionary, or internal versus external.

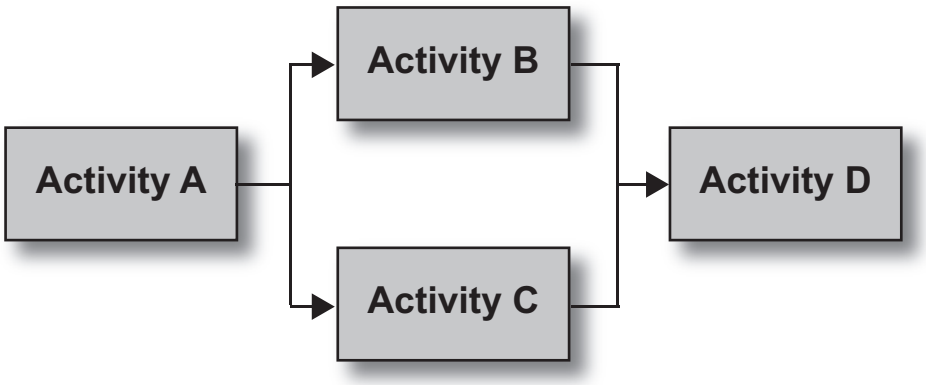
- **Mandatory Dependencies —** these are dependencies that are legally or contractually required or are inherent in the nature of the work. Such dependencies can involve physical limitations where one step in the project process must finish before another can begin. Mandatory dependencies are sometimes referred to as hard logic or hard dependencies.
- **Discretionary Dependencies —** these dependencies are sometimes referred to as preferred logic, preferential logic, or soft logic. Discretionary dependencies are established based on knowledge of best practices within a particular application area or some unusual aspect of the project where a specific sequence is desired even though there may be other acceptable sequences
- **External Dependencies —** these dependencies represent a relationship between project and non-project activities. These dependencies are normally outside the project team's control. For example, a construction project may not be able to break ground on the construction site until all of the governmental approvals have been received.
- **Internal Dependencies —** these dependencies involve a precedence relationship between project activities and are generally within the control of the project team.

Producing the Network Diagram

It is essential to establish the relationships between activities and between activities and milestones, and to document them in the network diagram. In a precedence diagram, activities are drawn in series or in parallel.

Activities in series:
Activities are done one after the other.

Activities in parallel:
Some activities, such as B and C, may be done at the same time if resources allow. However, parallel activities in a network diagram do not necessarily start or end at the same time. Start and end dates are determined in scheduling, not sequencing.



When creating the network diagram, each activity must have a predecessor (an activity or a milestone before it) and a successor (an activity or a milestone after it). This is because all work in a project is connected, or dependent, upon something else. The only exceptions to this are the project start and end milestones.

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Effort, Duration, and Cost

The project manager, with the help of the team, is accountable for estimating the project effort, duration, and cost.

Effort:

The number of labor units required to complete a schedule activity or work breakdown structure component. Often expressed in hours, days, or weeks.

Duration:

The total number of work periods (not including holidays or other nonworking periods) required to complete a schedule activity or work breakdown structure component. Usually expressed as workdays or workweeks.

Cost:

An approximation of the cost of the resources to complete project activities.

Estimating is a combination of technique and process. Techniques are used initially, and then the process of continual evaluation is used to refine the estimates.

Technique + Process = Better Estimates

Weighted Average

Weighted average (also called the three-point estimate or the statistical technique) takes into consideration the best-case, worst-case, and most likely scenarios when considering the estimate. The estimates are then combined into a formula to arrive at the expected cost or duration for the activity.

To compute a weighted average, do the following for each activity:

1. Decide how much time the activity will most likely require.
2. Identify a worst-case (pessimistic) estimate of required time, documenting the conditions.
3. Identify a best-case (optimistic) estimate of required time, documenting the conditions.
4. Calculate the estimate (E) using the formula below.

$$E = \frac{\text{Optimistic} + (4 \times \text{Most Likely}) + \text{Pessimistic}}{6}$$

Where…

E	=	estimate
Optimistic	=	best-case; everything goes like clockwork and without problems
Pessimistic	=	worst-case; allowances are made for many things to go wrong
Most Likely	=	a few problems may crop up and cause minor delays

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Estimating Activity Duration

Previously we estimated the effort in hours that it would take to complete each activity. Now we need to convert those effort estimates to durations. Each activity will have an estimated duration associated with it.

To convert from effort to duration:

1. Take the estimated effort in staff hours
2. Divide by the number of work hours in the day (if effort is more than one day)
3. Divide by the number of people **required** to perform the activity if more than one
4. Apply any **necessary** idle time (time not working on the project)
5. Apply any expected operational delays, lead times, and lag times
6. Apply calendar to get actual workdays

Critical Path

Once the network diagram is completed, it's time to assign dates to the activities so that the project schedule may be determined. Refer to your activity duration estimates or start and finish dates from your WBS or activity list for this information.

Determining the schedule for the project involves some math. On the first pass, work from left to right through the network diagram to calculate the theoretical early start and finish dates for the project activities. These are theoretical and without regard to resource limitations or constraints. The dates that result are not the schedule but rather the time periods within which the activity should be scheduled.

The most widely used technique for determining the project schedule is called the Critical Path Method, or CPM. CPM focuses on calculating float in the project in order to determine which activities have the least scheduling flexibility. That is, activities not lying on the critical path are more flexible.

Critical Path:

The sequence of activities that represents the longest path through a project, which determines the shortest possible duration. Any activity that lies on the critical path, if delayed, will delay the entire project.

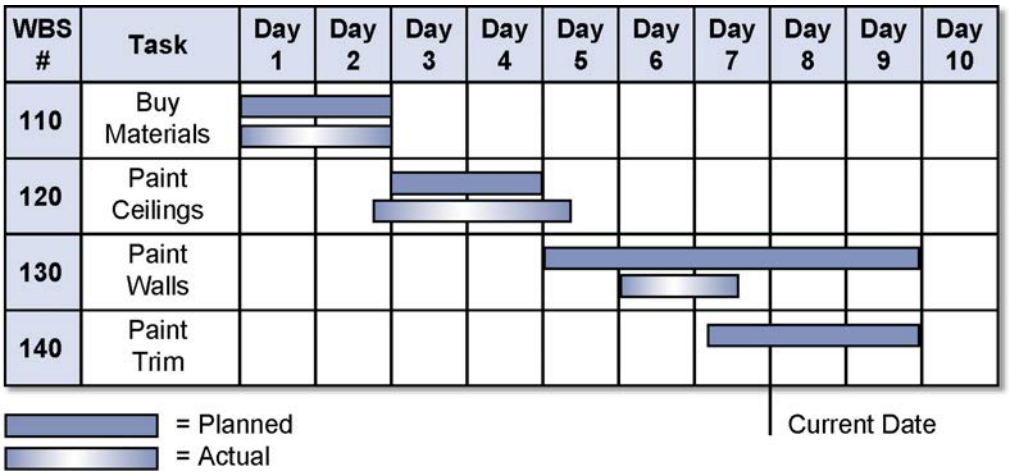
The critical path is easy to determine in a project that has been documented with a good network diagram. Simply add the duration of all activities on a path. Do this for every distinct path through the network diagram. The path that requires the most time to complete becomes the critical path. Critical activities — those activities on this path — not completed on time will delay the project (unless the time is made up later or something else along the path finishes early).

Gantt and Bar Charts

Gantt charts and bar charts, sometimes referred to as project timelines, show activity start and end dates as well as expected durations, but do not usually show activity dependencies. They are easy to produce and easy to understand. In fact, they are often used in management presentations to provide a high-level overview of the project.

In the typical bar chart, activities are listed down the left side of the chart. Dates are shown along the top of the chart. Activity durations are depicted as lines or bars on the body of the chart.

The level of scheduling detail displayed on a bar chart is determined by the time periods you use on the top: daily, weekly, monthly, or whatever is appropriate for your project. If a project takes a year or more to complete, then it's probably best to use months as the time period. On the other hand, a project that can be completed in a few weeks might use days as the time period.



Communication plan

Communications Management Plan

A good communications management plan is an essential part of any project. It's vitally important for all of the project stakeholders to be kept informed of all aspects of the project.

Communication Planning:

The process of determining stakeholder information needs and defining a communication approach.

Components of a communications management plan should include:

- Stakeholder communication requirements
- Information to be communicated, including language, format, content, and level of detail
- Reason for the distribution of that information
- Person who will communicate the information
- Person or groups who will receive the communication
- Methods or technologies used to convey the information, such as memos, e-mail, and/or press releases
- Time frame and frequency of the communication
- Escalation procedures for issues that cannot be resolved or decisions that cannot be made at the lower levels
- How the communication plan will be updated
- Resources allocated for communication activities, including time and budget
- A glossary of project terminology
- Team communication procedures, such as progress reports, providing ideas and feedback, and reporting problems and issues
- Performance reporting procedures (status, progress, trend, and forecasting)

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Developing the Communication Plan

Steps involved in developing the communication plan are as follows:

1. Analyze the project's communication requirements. Understand the type of information, the format of the communication, and the value of the communication that must be conveyed. Be sure that communication efforts focus on contributing to the project's success, whether it involves good news or bad news. Take care not to inundate stakeholders with unnecessary communications.

   Each project has a set of potential communication channels. The number of communication channels is determined by using the equation n(n-1)/2, where n = the number of team members. For example, a team with eleven members has a potential 55 communication channels.

2. Determine what methods or technologies will provide the information that is needed by a particular stakeholder with the least amount of effort while providing the most value. Communications methods may range from a simple conversation to online access to documentation.

3. Verify with key stakeholders that the defined communication plan and processes will meet their needs and expectations.

Here are a few final considerations about project communications:

- Communicate only as necessary
- Keep it short, sweet, and to the point (a one-minute verbal message, a one-page written update, or a one-hour status meeting might be goals)
- Keep up with your e-mail, voice mail, and personal in-basket

Examples of Communication Plans

Here are a couple example communication plans for regularly scheduled communications.

Communication Event	Sue	Mark	Jill	Ali	Don
Project Plan Updates	W E	W E	A/N P	W E	W E
Weekly Conference Calls	W CR	W T	A/N T	W CR	W CR
Status Reports	W E	W E	M P	W E	M P
Change Request	D E	D E	O/D P	N/A	M P

Frequency
D = Daily
W = Weekly
M = Monthly
A/N = As Needed
O/D = On Demand
N/A = Not Applicable

Mode
E = Electronic
P = Paper
T = Telephone
CR = Conference Room

Stakeholder	Information	Method	Freq
Frank Isch	Milestone Progress Est. Comp. date	Current State Report	Weekly
	Exp. to budget Est. Comp. Exp.	Current State Report	Weekly
	Showstopper issues	Face to face. Involve Dan	ASAP
Dan O'Donnell			

Change Control

Chances are pretty good that there will be scope, schedule, and budget changes during the project. As with all other aspects of the project, a change control plan can help the project manager avoid disaster when changes occur. Effective change control will maintain the integrity of the project baselines by releasing only approved changes for incorporation into the project management plan and project documents.

Change Control:

A process whereby modifications to documents, deliverables, or baselines associated with the project are identified, documented, approved, or rejected.

There are several factors to be considered when planning for changes to the project:

- The project manager or other stakeholders may be able to influence elements that contribute to changes to make sure they are beneficial to the project.
- The project manager needs to be able to identify when a change has occurred.
- The project manager must then manage the actual changes that occur.

As changes to the project affect all other aspects of the project, the project manager must be sure that the project documentation and project management plan are updated as appropriate.

In particular, you will need:

- A work breakdown structure
- Performance reports — to see what's been done so far and what remains
- Change requests — verbal or written, internally or externally generated, legally mandated or optional, etc.
- Change control plan
- Schedule/network diagram
- Cost estimates
-

Reasons for Change

Projects change for many different reasons, such as those listed below:

- Incorrect or inadequate plan
- Requirements changes
- Modified budget
- Human error
- Assumptions that are no longer valid
- Revised completion date
- Change in project priority
- Unavailable resources
- An external event
- Error or omission in defining scope of the product
- Value-added change
- Implementing risk contingencies

Whenever there is a change to the project, for whatever reason, there are other impacts to the project as well.

Some of these impacts are:

- Increase or decrease in the project cost
- Extension or reduction of the project schedule
- Fewer or more resources required
- Changes in the project deliverables
- Improvement or degradation of quality
- Reduced morale and productivity
- Conflict

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A Typical Change Control Procedure

Listed below are the typical steps that should be done whenever any aspect of the project changes:

1. Document the change
2. Evaluate the impact on the project
3. Determine the level of approval required
4. Submit for approval

If approved:

- Communicate the changes to all project participants
- Change the project documentation as required (WBS, estimates, schedule, plan, risk, other project specifications)

If not approved:

- Communicate the decision
- Offer an explanation to the stakeholder(s) who requested the change
- Document the request and the decision for future reference

Example of a Change Request Form

Definition

General Information	**Title:** Automatic Form Completion **Change ID:** CR-014 **Project:** Applicant Registration **Originator:** Joe Schmo **Opened:** 02-August-07 **Priority:** 2 **Type:** Requested Modification
Description	Add the following requirement: If the user is a member of Card Free Services then automatically populate the registration form for Free Money Transactions with their personal information.
Drivers	Scope
Impact of No Change	The user will have to input their personal information twice. This will annoy the user and potentially cause duplicate entries due to input errors.
Impact Comments	This will enhance the customer's comfort level with our services and promote a one stop shopping area for these kind of services.

Continued on next page

Impact

Cost Impact	$7,510.00
Time Impact	5d
Scope Impact	None
Documents Impacted	System Requirements
Impact Comments	There is currently no interface between the Cosmo and Nextun systems that allows for the transfer of personal data. Architecture will give the two systems network connectivity ($3,500, 1d). Judy Wilson will require 65 hours to step up the query for the Tanks database and to design/code the insertion of the data into the form prior to presenting it to the user ($4,010/4d).

Disposition

Closed	13-August-07
Disposition	Approved
Disposition Comments	Architecture will charge Systems GL at the end of April.

Risk Management

Elements of Risk Management

- Plan risk management
- Identify risks
- Perform qualitative risk analysis
- Perform quantitative risk analysis
- Plan risk responses
- Control risks

The first five should be conducted during the planning of the project. Let's explore each of these in turn.

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Risk Management Planning

Using risk management planning, the project manager and the project team decide how to approach, plan, and execute the risk management activities of the project. In addition to the project team, the project manager may involve key stakeholders and people in the organization who are responsible for managing risk across the enterprise in these risk management planning sessions.

Risk Management Planning:

The process of defining how to conduct risk management activities for a project.

During risk management planning, the project manager should also determine the amount of effort to put into managing risk in relation to the project's context. For example, some projects may have a lower tolerance for risk than other projects and will, therefore, require more energy in the area of risk management.

Risk Identification

The second step in risk management involves identifying the risks associated with the project. Once risks are identified, the project manager can begin to develop a risk register, which will contain a list of identified risks, the probable causes of those risks, potential responses to the risks, and a set of risk categories for the project.

Risk Identification:

Determining which risks might affect the project and documenting their characteristics.

The project manager needs to consider both internal and external risks to the project. Internal risks are things that the project team can directly influence, such as resource usage and cost estimates. External risks, such as market shifts or government regulations, are beyond the control of the project team.

Use the following tools to identify risks associated with the project:

- Documentation reviews
- Information gathering techniques, such as brainstorming, Delphi technique, interviewing, root cause identification, and SWOT (strengths, weaknesses, opportunities, threats) analysis
- Checklist analysis
- Assumption analysis
- Diagramming techniques, such as cause-and-effect diagrams, system or process flowcharts, and influence diagrams
- Expert judgment, such as the personal experiences of the project manager, project team, other stakeholders, and experts with relevant experience from other projects or business areas

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Qualitative Risk Analysis

Analyzing risks takes some thought. Opportunities and threats can interact in unexpected ways. A single risk can cause multiple effects, and an opportunity for one stakeholder may present a threat to another.

Qualitative risk analysis involves evaluating the risks associated with the project and assigning some type of weighted assessment of probability and impact to the project.

Qualitative Risk Analysis:

The process of prioritizing risks for further analysis or action by assessing and combining their probability of occurrence and the magnitude of the impact if the risk were to occur.

To fully analyze the identified risks, it helps to understand where the project is in its overall life cycle. Projects earlier in the life cycle usually face more unknowns than a project late in its life cycle. The type of project can also affect the risk analysis. Standard projects that are well understood and proven within an organization have fewer unknowns, for example, than a project using technology that is new to the industry or organization.

In most cases, more accurate quantification results when the project manager involves project team members and stakeholders in the process.

Tools and techniques for qualitative risk analysis include:

- **Risk probability and impact**
- Assign a numerical value to indicate the probability of a risk occurring
- Assign a numerical value to indicate the magnitude of the impact if the risk occurs
- Multiply the probability by the impact to obtain a risk score used to prioritize the identified risks
- **Probability and impact matrix —** A common way to determine whether a risk is considered low, moderate, or high by combining the two dimensions of a risk: its probability of occurrence and its impact on objectives if it occurs. Normally displayed in the shape of a cube.
- **Risk data quality assessment —** A qualitative risk analysis depends on accurate and unbiased information, if it is to be credible. This assessment examines the data available and determines if the accuracy, quality, reliability, and integrity of the data allows the risks to be evaluated. If the answer is no, an effort may be launched to gather higher quality information.
- **Risk urgency assessment —** Some risks may require action sooner than others. This assessment examines the various risks identified and prioritized to determine the urgency of addressing each one.

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Quantitative Risk Analysis

The quantitative risk analysis process aims to analyze numerically the probability of each risk and its consequence on project objectives, as well as the extent of overall project risk. The purpose is to deepen the understanding of risks associated with the project and is generally done after qualitative risk analysis.

Quantitative Risk Analysis:

The process of numerically analyzing the effect of identified risks on overall project objectives.

The qualitative and quantitative processes can be used separately or together. Considerations of time and budget availability and the need for qualitative or quantitative information about risk and impacts will determine which method(s) to use.

Quantitative risk analysis can broaden the Project Manager's understanding of:

- The probability of achieving the project's objectives
- The size of cost and schedule contingency reserves that may be necessary
- Realistic and achievable cost, time, and scope targets for the project

Tools that can be employed for performing quantitative risk analysis are:

- **Interviewing** — A risk interview with project stakeholders and subject-matter experts may be the first step in quantifying risks.
- **Sensitivity Analysis** — Helps determine which risks have the most potential impact on the project by varying certain factors associated with the risk to ascertain if a small change has a greater or lesser impact on the project.
- **Expected Monetary Value Analysis —** A statistical technique that calculates the average outcome when the future includes scenarios that may or may not happen. A common use of this technique is within decision tree analysis.
- **Simulation** — A project simulation uses a model that translates the uncertainties specified at a detailed level into their potential impact on objectives that are expressed at the level of the total project.

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Risk Response Planning

It's not enough to identify, qualify, and quantify the risks. The project manager must also determine the appropriate response to the risk. It's important to determine both what to do in the event the risk event actually occurs and how to approach the project before the risk presents itself in the first place.

Risk Response Planning:

The process of developing options and actions to enhance opportunities and to reduce threats to project objectives.

Responses for Negative Risk; i.e. Threats

Responses to negative risk generally fit into one of these four categories:

- **Avoid** — eliminating the risk by eliminating the cause.
- **Transfer** — shifting the consequence of a risk and/or its outcomes to a third party together with ownership of the response.
- **Mitigate** — taking action to reduce the probability and/or consequences of the adverse risk to an acceptable level.
- **Accept** — accepting the risk or consequences and deciding not to change the project plan to avoid, transfer, or mitigate the risk.
- *Passive acceptance* indicates that the project manager and the team choose not to take any action to deal with the identified risk threat at this time.
- *Active acceptance with contingency response strategy* indicates that the project manager and the team will create a contingency plan that identifies the steps and reserves that will be necessary should the risk threat occur. These contingency plans are then kept with the project plan to be used as necessary. A contingency plan requires an associated trigger to indicate when the contingency plan is to be activated.

Responses for Positive Risk; i.e Opportunities

Responses to positive risk and opportunity generally fit into one of these four categories:

- **Exploit** — eliminating the uncertainty by ensuring that the positive risk and/or opportunity happens.
- **Share** — involving a third party who is better equipped to capture the opportunity for the benefit of the project.
- **Enhance** — increasing the probability and/or impacts of an opportunity.
- **Accept** — being willing to take advantage of the opportunity, if it arises, but not actively pursuing it.

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The Risk Register

The risk register is where the results of risk management planning, risk identification, qualitative analysis, quantitative analysis, and risk response planning are documented.

The risk register should contain the following types of information:

- List of risks, along with their symptoms and triggers
- Risk owners and assigned responsibilities
- Results of qualitative and quantitative analyses
- Planned responses to identified risks
- Specific actions to implement the chosen response strategy
- Budget and times for responses and the reserve dollars and schedules that will be needed to cover the responses
- Contingency plans and fallback plans