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Module 1 Introduction

Introduction

Welcome to Advanced Project Management

This workshop is designed to help you achieve greater success in your projects.

Advanced Project Management is intended to help you gain a more in-depth appreciation for the challenges associated with initiating, executing, controlling, and closing a project. It is not enough to merely execute the project plan. While solid planning will significantly enhance the probability of success, effective and timely control throughout the project is absolutely essential if the project is to finish on time, within budget, and deliver what has been promised.

In *Fast Start® in Project Management* or *Project Management for Information Systems*, you learned that one of the critical factors always observed in successful projects is effective day-to-day control. In this workshop, we will explore this subject further.

The workshop has been designed to present advanced tools and techniques for dealing with the challenges found in the executing, controlling, and closing processes. These techniques will increase your ability to lead and manage projects. They will give you additional insights into how to handle problems and present options for your consideration.

NOTE: This course assumes that you have already taken basic project management training and have experience as a project manager. All definitions and processes included in the course are consistent with the Project Management Institute's *A Guide to the Project Management Body of Knowledge*, or PMBOK® Guide.

Workshop Logistics

Please record the logistics for your workshop below:

Facilitator:
Facilitator E-mail:
Start and End Times:
Lunch (approximately):
Breaks:
Facilities:

Introduction

Workshop Materials

As part of this workshop, you will receive the following:

- Participant guide
- Bonus sections
  - Managing projects better with process
  - "Special situations" (that happen all the time)
- Recommended reading
- Glossary
- Index
- Case project and examples
- Notepaper

How to Get the Most Out of this Workshop

Generally, what people get from any workshop is directly related to what they put in. To help you maximize the value you derive from this course, you should consider doing the following:

- Keep an open mind
- Respect the views of others
- Participate
- Ask questions at any time
- Put aside other work and problems
- Avoid outside interruptions
- Have fun
- Please avoid using cell phones and pagers in the classroom

Introduction

Workshop Objectives

By the end of the workshop, you will be able to perform activities relating to the following project management process group:

Initiating

You will be able to identify key stakeholders, assess project feasibility, and solicit authorization.

Executing

You will communicate weekly activities that are scheduled for completion with a focus on critical activities. You will update plan components, manage team and stakeholder expectations, and communicate progress and status consistently and predictably. You will manage project risk and maintain a schedule and budget with consistent predictive power.

Controlling

You will be able to manage cost, scope, time, risk, quality, and project change according to a set of processes. You will be able to influence future project activities to meet project goals.

Closing

You will know how to use project metrics and process documentation to learn how to manage projects better. You will analyze the projects and the project management process continually.

Workshop Contents

Advanced Project Management covers the following topics:

- Project selection and initiation
- Project execution methodology
- Project variance and control
- Project closure and learning

Notes

Module 2

Project Selection and Initiation

Project Selection and Initiation

Initiating Projects

> *The intent of the **initiating process** is to define a new project or a new phase of an existing project by obtaining authorization to start the project or phase.*

While the action of initiating a project is straightforward, what is behind the decision to authorize project work is much more complex.

For most organizations, the decision to go forward with a project is ultimately about making the best choice from a number of potentially attractive options. The biggest challenge facing many organizations today comes from having more good things they could do than they have the capacity to do.

Whatever road companies take in building their future, project management is intended to help them turn their strategy into reality.

In this section, we will consider the role of project management in project selection and initiation.

When Do Projects Start? Defining the Project Life Cycle

A fundamental difference between project work and operations work is that project work has a defined start and end. To understand how project management can best help organizations, particularly when projects are being conceived and started, it is important to have a clear view of where the start of the project occurs.

Organizations can choose from several potential starts to the project:

- Original conception of the project idea (start of initiation)
- Approval of the project (start of project planning)
- Approval of the project plan (start of project work)

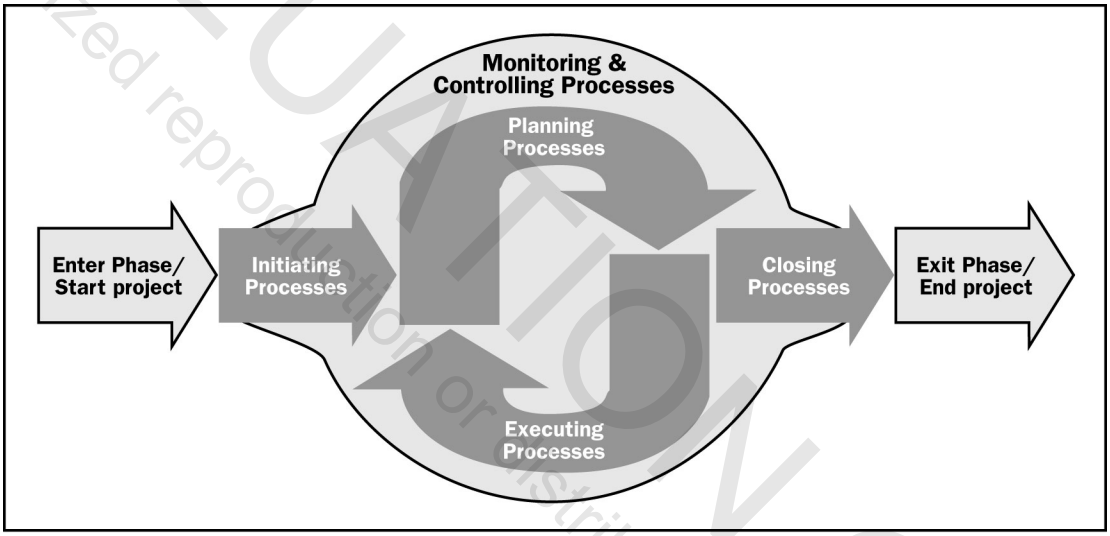


Figure 3-1. Project Management Process Groups

A Guide to the Project Management Body of Knowledge (PMBOK® Guide) – Fourth Edition. ©2008 Project Management Institute, Inc. All Rights Reserved.

Project Selection and Initiation

Choosing when a project starts depends on what an organization needs to manage time, cost and scope.

- Choose the **start of project work** as the official start of a project if the main goal is to manage the work that it takes to build the product of the project, and not to manage resources allocated to the planning process. In this case, the original baseline would be the primary output of the planning process.
- The planning process often makes a significant demand for resources on an organization. In general, the greater the project management maturity of the organization, the more costly the planning effort is in terms of required person-hours. In this case, it is advisable to "manage" from the **start of project planning** as opposed to from the **start of project work**. The original baseline would be sunk as a project passed from initiation to planning. This is typically when the project manager is assigned.
- **Start of initiation** begins a process that leads to a decision. Managing this period may require different approaches than later stages of the project. The decision to move ahead with the project is often not a time- or cost-dependent process. Without the need to manage time or cost during project initiation, the value of formal project management is greatly diminished. Conversely, the outcome of planning, including the optimal use of resources to accomplish objectives, is time and cost related.

  In dividing an organization's staff into strategic (those who decide which way a company should go) and tactical (those who actually carry out the strategy) resources, it is typically the tactical resources that can or need to be time/cost managed. Initiation, being a strategic process (should we do this project or not), utilizes middle to senior management resources to make a decision about whether to proceed.

> *No matter where organizations define the "official" project start, it should coincide with the sinking of the "original baseline" for the project plan.*

Tips for Defining the Start of a Project

Even if your organization has not addressed the issue of when projects start, it is possible for project managers to promote a common definition for a project start.

- Work with other project managers and the overall management of your department to determine a standard definition for the start of a project based on the organization's management needs.
- If consensus cannot be reached, it is still important for the delineation to be understood among your project team and stakeholders. At the very least, projects should have a clear transition at these two points:
  - When moving from the **initiating** to the **planning** phase**.**
  - When moving from the **planning** phase to the **start of project work**.

> *Ideally, the defined "start" of projects should be consistent throughout the organization.*

Project Selection and Initiation

Considerations for Initiating Projects

There are 3 main activities involved in the initiation of projects:

- Strategic planning
- Prioritizing projects
- Selecting projects

Strategic Planning

Strategic planning answers the question, "What is our business and what should it be?" (Drucker). Strategic planning develops a course of action that achieves the aims and objectives of the organization. A great body of writing on strategy and strategic planning for business includes work from current authors such as C.K. Prahalad, Michael Porter, and Henry Mintzberg.

Even though the corporate strategic plan is typically defined at a high level in the organization, it is important for all project managers to understand the "big picture." One of the project manager's most influential roles is to connect the work that project teams perform to the overall direction of the company.

Prioritizing Projects

Prioritization determines the order in which we apply our effort. It is usually based on a combination of "hard" and "soft" factors. Some factors include:

- *Return on Investment:* A cost/benefit analysis should be part of your examination of return on investment. Some items will be easy to quantify in terms of dollars, and other items will need to be assessed differently. Keep in mind that a strictly numerical assessment of the project may not be enough for a fully considered decision. For example, some projects produce "enablers." That is, they allow organizations to do certain things that may not be easily assessed using a cost/benefit analysis (i.e., the creation of a new unit within the organization).
- *Risk:* In assessing project risk, consider the risks involved in executing the project, **and** the risk involved in **not** doing the project. If we do not do the project at all, what risk will there be to the organization? In examining what risks exists in parts of the project, consider questions like, "Is the risk of failure too high?" and "Are there ways to mitigate the risk?"
- *Opportunity Cost:* Originally an investment accounting term, opportunity cost has been adopted by strategic planners. In assessing the cost of the selected project, we include the value of projects **not** selected as a result of a competition for limited resources.

Project Selection and Initiation

Rules for prioritizing projects should be established at a high level in the organization. Organizations that enjoy repeated success in this endeavor make sure that the process is **dynamic**, **sufficiently detailed**, and **unambiguous**.

- *Dynamic Prioritization of Projects:* Priorities need to be established at the same pace that the work moves. Each cycle of prioritization should be timed so that new projects do not wait too long before being assessed. If projects are added to an organization weekly, then a current priority list has a shelf life of about two to three weeks. The urge to "deal" with projects will usually be stronger than the desire to protect a process that is deemed unresponsive, giving rise to ways to circumvent a process that is intended to ensure that the right project gets started at the right time.

  A prioritization process that is less dynamic than the project environment is the most common initiating problem for project organizations. To ensure an expedited process, it is important to create a process that is flexible and easy to use.

- *Sufficiently Detailed Prioritization of Projects:* Projects need to be prioritized to a level of detail that reflects the organization's capacity to take on projects. If we rank projects high, medium, and low, then we can expect that multiple projects will hold the same ranking at the same time. For example, if there are 10 projects ranked as "high," and the organization has the capacity to initiate anything less than 10 projects at one time, then the prioritization effort has yielded no information useful for deciding what projects should be initiated.

- *Unambiguous Prioritization of Projects:* Priorities that do not distinguish between projects may prove difficult if not impossible to use. Complex calculations that can give multiple independent factors need to be reduced to a simple ranking. For example, is a "1B" project a higher priority than a "2A" project? Ideally, projects should be ranked so that any ranked project can be instantly positioned against any other ranked project (e.g., 1, 2, 3…).

Selecting Projects

The process of selecting projects brings together choices made during **strategic planning** and **prioritization** into a single commitment to begin a project.

In mature project organizations, the actual selection of projects to go forward into planning is straightforward and transparent. The ease of this decision will hinge on the quality of the other two activities in the initiating process.

> ***Project selection*** *is the initiating of the highest priority projects in order to execute the organization's strategic plans.*

Project Selection and Initiation

Key Elements of the Initiating Process

The intent of the initiation process is to decide what projects should move into planning. Outputs should include:

- **A Go/No Go Decision (Project Gating):** Initiation should provide approval for the project planning period. At the end of project planning it is advisable to get approval of the plan as a way of managing stakeholder expectations.
- **Project Charter:** The charter documents the business needs, current understanding of the customer's needs, and the new product, service, or result that it is intended to satisfy. Can include the following information:
  - High-level project description
  - Project purpose or justification
  - Measurable project objectives and related success criteria
  - High-level requirements
  - High-level risks
  - Summary milestone schedule
  - Summary budget
  - 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
- **Key Stakeholders:** Stakeholders must be identified with their interests, needs, and attitudes toward the project understood.
  - Stakeholder register
  - Strategy for managing stakeholders
- **Priority:** An understanding of the importance of the project relative to all the other work in the organization. This may be simply the reporting of the "project rank."

Guidelines for Project Initiation

Perhaps more important than the mechanics of the initiating process is how it is perceived by stakeholders. To ensure that stakeholders AND project team members see initiation as something that works to their benefit:

- Make sure the process remains transparent (easy to understand and follow) and predictable (no surprises). Be prepared to evolve the process continually as understanding of, and experience with, the process increases.
- Be consistent - use standard forms and approaches for gathering and organizing project initiation information. Update the forms as needed to match the evolution of the process. Ensure that all forms used match the intent of the process.
- Above all, maintain fairness in the process. Process controls that do not flex to accommodate common situations can induce "end-run" behavior, where individuals find ways to get around processes that do not work for them. When such behavior is tolerated, it tends to punish those who use the process.

  For example, consider two projects estimated to cost about $1 million each vying for resources. The organization requires a justification meeting with senior management for all projects over $250,000. One sponsor submits their project and it is rejected on the grounds of insufficient available resources. The other sponsor breaks their project into five projects of about $200,000 each. The projects enter the organization without any need for justification. Fairness was sacrificed because of a loophole in the process, and the sponsor who used the process feels cheated by it.

Module 5

Project Closure and Learning

Project Closure and Learning

The Closing Process

> ***Closing Process:***
> *The process of finalizing all activities across all of the project management process groups to formally complete the project or phase.*

Two processes make up the closing process group:

Close Project or Phase is the documenting of project results to formalize acceptance of the product by the sponsor or customer. Activities include:

- Completing all actions and activities necessary to satisfy completion or exit criteria for the phase or the project
- Completing all actions and activities necessary to transfer the project's products, services, or results to next phase or to production and/or operations
- Collecting project records
- Ensuring that project records reflect final project specifications
- Analyzing project success, effectiveness, and lessons learned
- Archiving project records for future use

Close procurements involves essentially the same activities as close project but is applied to procured resources. This process may also involve specific procedures outlined in the contract terms and conditions.

The closing process group is often tightly linked as a successor to one of the processes in the controlling process group: scope verification. This is because the scope verification process allows formal acceptance of the deliverables by the stakeholders.

The Challenge of Project Closure

For many projects, closure is either not undertaken, rushed, or poorly performed. A number of pressures on the project manager and his or her team can compete with closure activities:

- Some stakeholders start to lose interest in the project. Once a key deliverable has been completed, less energy may be put toward the remaining project activities.
- Team motivation drops as members begin looking for the next opportunity.
- The start of some other project is more pressing for the project manager. The start of a new project is the most labor-intensive part for a project manager.
- The need to "decompress" overrides normal project control. After a major effort to meet a deliverable or deadline, the project manager and the team need "downtime." Project closure activities and remaining project work scheduled during this time may not be managed as tightly as normal.

Such pressures highlight the need for a formalized process. The intent of the closure process is to learn from the completed project's results, events, and circumstances in order to increase the organization's performance on future projects.

Project Closure and Learning

When and How to Learn from Projects

Organizations spend large sums of money helping employees learn from other people. However, to learn something from somebody else, that somebody has to document the information in some way and then share it. People are accustomed to documenting and often do so. Regularly finding the time to share it is considerably more difficult. Information increases in value when it is shared. Effective project closure occurs when lessons are 1) gathered with an appropriate amount of consideration and reflection, and 2) available for consideration during the initiation and planning of future and distant projects.

This closed loop brings us back to two of the greatest difficulties in managing projects:

- Predicting a project's scope, time, and cost at completion, given multiple horizon lines. This includes **initial sizing** and **detailed estimating**
- **Unforeseen events** that disrupt well-thought-out plans

Initial Sizing

The decision to initiate a project is almost always based on some perception of the cost and time demands. Stakeholders need to understand what they are getting into. Sizing a project provides some quantification for the size and duration of the effort being considered.

There are two different ways of sizing a project for budgeting purposes:

- When scope is the least flexible side of the triangle, sizing a project using scope parameters is a great method. This requires the availability of a correlation between the scope parameters and associated hours of effort.
- When time or cost is the least flexible side of the triangle, phase distribution is a great method for sizing. This requires that historical averages for the effort expended during each phase be known.

An organization's ability to size projects in the ballpark of where they will finally end up is directly related to how much it understands about project work it has already done. This understanding is best achieved through a good closure process.

Detailed Estimating

Sizing estimates for a project eventually need to be replaced with a more rigorous approach to predicting the final time, cost, and scope of a project. However, these detailed estimates still need to be drafted before work on the project begins.

Several individual factors contribute to the project's overall estimate:

- Hours of effort to complete individual activities
- Time and cost reserve required for changes and risks
- Hours per week that resources are available for project work
- Percentage of effort that team members spend on project overhead
- Percentage of effort that team members are available for project activities

In order to create good overall project estimates, historical averages need to be known for each of the factors. Good project closure techniques provide strong support for the detailed estimating process.

Unforeseen Events

Projects are notorious for placing project managers in detrimental circumstances. There is no reason why more than one project manager in an organization should suffer from the same unforeseen event. These events cost additional time and money, something project managers can do without.

A considered and transparent project closure process is the only way a project manager can learn from the experience of other projects that may have occurred in a distant time and place in the organization's history.

Project Closure and Learning

Project Closure Reporting and Archiving Processes

The project closure process is flexible enough that most organizations develop unique ways to approach it. Some general steps can and should be incorporated into any closure process.

These steps include:

1. Obtain from the client or sponsor formal acceptance of the project's deliverables (scope verification)
2. Release all internal resources and close out any open contracts
3. Analyze metric, baseline, and change data
4. Evaluate processes and documentation
5. Document project events and circumstances
6. Generate lessons learned
7. Finalize and share the project closure report
8. Celebrate the end of the project
9. Archive the project records
10. Conduct follow-up surveys as negotiated

Step 1 — Obtain Formal Acceptance

Formal acceptance is the only way to show that the project has delivered the product or service deliverables to the satisfaction of the customer. Depending on the size and complexity of the project, getting to formal acceptance may involve:

- Inspection to verify scope
- Turnover process
- Closeout meeting
- Formal acceptance

Inspection to Verify Scope

Scope verification is mainly concerned with the *acceptability* of the product to the stakeholders. This differs from quality control, which determines the *correctness* of the project results. In scope verification, the project results are inspected and compared to scope documents generated earlier in the project, which define product requirements and specifications.

Turnover Process

Turnover is the actual transfer of deliverables, including all the supporting elements, to the customer or user. The turnover process documents the essential steps for accomplishing the hand-off of the deliverables. For example, what must be done before the user assumes responsibility for the deliverables, such as training, documentation, etc.?

Completion criteria represent the activities that must be completed before the project is finished or can be accepted in the eyes of the user. For example, certain testing might need to be successfully completed before the customer is satisfied.

Often, the completion criteria or turnover process seems to be a moving target rather than a fixed entity. To stabilize this process earlier in the project, clearly define the specific activities that must be completed before the various stakeholders consider the project complete. The process should define the agreed method for confirming satisfactory completion. Not defining these elements during planning can cause problems at the end of the project, because the project team will think the project is complete, and the customer will not formally agree that the project is complete.

Completion and turnover may be based on activities such as:

- Completion of all designated WBS activities
- Completion of all specified deliverables
- Completion of all testing, with satisfactory results
- Development of a training program
- Completion of operating and maintenance manuals
- Completion of process procedures and verification via testing or demonstrations

Project Closure and Learning

Turnover readiness is the agreement on what must be in place and completed before turnover of the deliverables can begin. The **turnover process** details how the turnover will be conducted in terms of the steps — what is included, what is not included, the schedule, etc. Turnover can be one event at the end of the project, or it can be a series of events over the latter half of the project life cycle. The process can be managed with a **project turnover checklist** that is used to track, manage, and check off completed activities and actions during turnover.

Items on a checklist might include the following questions:

- What specific activities must be completed satisfactorily before acceptance begins?
- How will unfinished, non-critical activities be handled?
- When will the specific deliverables be turned over, and in what quantities?
- Where will the delivery take place?
- Who from the customer side is authorized to sign off on the deliverables and indicate that the project is satisfactorily completed?
- What supporting elements, such as equipment, facility modification, tools, operating procedures, maintenance procedures, and training courses must be in place?
- What support from other organizations — such as a help desk, maintenance center, training organization, and human resources — is required?
- What post-project support is required; how long will it last; and who is responsible for providing it?
- Is the customer ready for the acceptance?
- Are other needed elements required for acceptance, that are outside the scope of this project, completed and in place?
- How will outstanding issues or actions be addressed, tracked, and closed?
- Will there be an overlap between delivery and the phase-out of the project team? If so, how long will it last and what specific involvement will the project team have?
- Are there items that need to be incorporated into a follow-up project? If so, who is responsible for initiating the work effort?

Closeout Meeting

The closeout meeting is a tightly run meeting orchestrated by the project manager, based on a firm agenda and a set of guidelines. It involves the team, customer/user, and other interested stakeholders.

The purpose is to:

- **Confirm that all required activities are completed:** The team should review the results compared to the WBS in preparation for the meeting to ensure no outstanding activities remain. In the meeting, the team can hit the high points with exceptions being addressed.
- **Review project results achieved, as well as the results of the turnover**.
- **Review the turnover open action item list:** List work related to the turnover that was incomplete, including corrective actions and additional activities not previously specified.
- **Assign outstanding activities or responsibilities and establish a schedule for any outstanding actions:** Discuss further actions with regard to the exceptions. If some additional work is necessary, determine when it will be done, who is responsible, and what impact it has on the turnover and use of the deliverables by the customer.
- **Review plans for interim or initial support:** The key is to make sure everything the customer needs is or will be in place. Of equal importance is to make sure every responsible party for these activities understands and accepts their role.
- **Thank everyone for their work and support:** Thank the team for their support, hard work, and dedication. Public praise is always well-received. The project manager might also want to encourage the sponsor and customer to say some kind words. Thank the stakeholders for their support and commitment to the project. If these people were actively involved throughout the project and really worked to help the process, thanking them publicly will encourage them to continue this behavior on future projects.
- **Have the customer formally sign on off the project acceptance.**
- **Evaluate the project**.

Project Closure and Learning

A danger with closeout meetings is that they may turn into a complaint session with emotions erupting on all sides. Some guidelines to maintain focus, civility and control might include:

- The purpose of the meeting is not to bring up old issues previously resolved. If unresolved issues exist at this point in time, such as completion criteria, work them out prior to this meeting.
- No surprises! The topics to be discussed should be familiar to everyone attending the meeting. Issues to be handled relate back to what has been previously documented during the planning process and in execution, or are part of the action item list generated during turnover. If someone has a new concern, the item should be worked out prior to the closeout meeting.
- The meeting should be scheduled at an appropriate time, based on the status of the project. The meeting should not be held too early, since significant loose ends may still exist.
- Review the agenda with the various stakeholders to ensure all of the pertinent topics are included.
- Ensure that the team is prepared to adequately address all of the agenda items, especially open action items.
- If the customer/user is not one organizational group but rather a number of different groups, separate closeout meetings for each group can be scheduled and held instead of one single meeting. A series of meetings can make more sense in certain circumstances.

Formal Acceptance

This can be a simple form stating that the deliverables have been turned over in an acceptable manner and all project requirements have been satisfied. If a few open action items are still pending, final signoff can wait until these items are resolved, or the document can be signed with the stipulation that all open actions items must be completed before the signature is effective. The formal signoff can be a rewarding symbol to the team that their work has truly produced something of significance.

Step 2 — Shut Down the Work Engine

Following formal acceptance of the deliverables, it is important to recognize that the project is complete and to release all internal resources and close out any open contracts. This allows the process of formal reflection to begin.

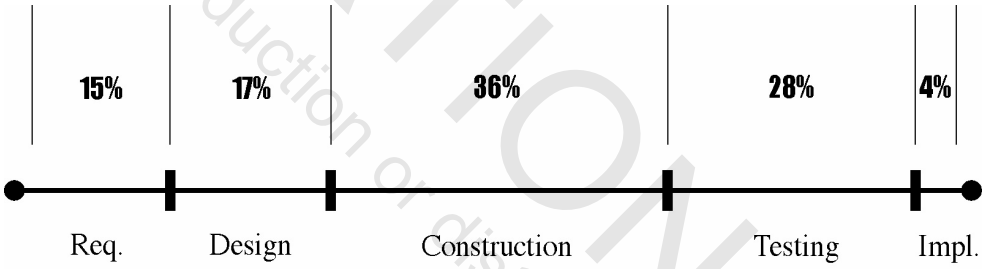
Step 3 — Analyze Metrics, Baseline, and Change Data

Analyze Metrics Data

Using actuals, determine the distribution of time, effort, and cost for each phase of the project. To do this, divide the actuals for each phase by the total for the project.

- Time phase distribution = phase duration / project duration
- Effort phase distribution = phase effort / project effort
- Cost phase distribution = phase cost / project cost

An example could be:



Then determine the following resource information from the project's actuals:

- Load of the project on the team.
  (Total actual hours / total work hours available) x 100 percent

  Example: A 1,000-hour project with five team members over 12 weeks

  = (1,000 / (5 people x 40 hours/weeks x 12 weeks)) x 100 percent = 41.7 percent
- The percentage of effort that team members were available for PROJECT Activities.
  (All project team Activity actuals / all project team actuals) x 100 percent
- The percentage of effort that team members expended on PROJECT OVERHEAD.
  (All project team OVERHEAD actuals / all project team actuals) x 100 percent

Project Closure and Learning

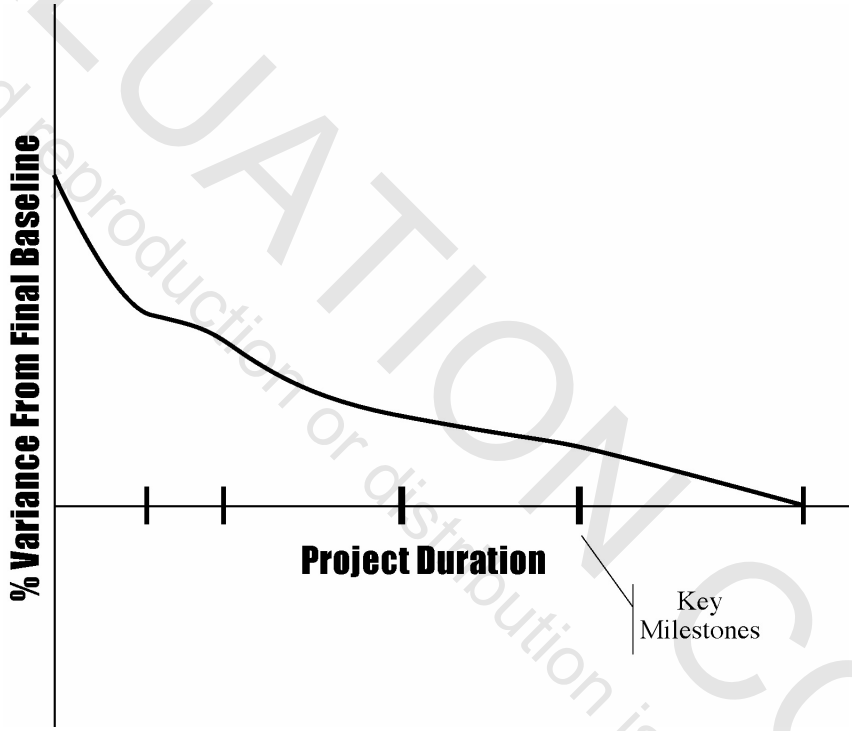
Analyze Baseline Data

Determine the time, effort, and cost variance from actuals for each baseline. Plot the results on a graph and show the phases, key milestones, and horizon lines on the time axis.

For each baseline:

- Time variance = baseline (i) estimated duration – actual duration
- Effort variance = baseline (i) EAC effort – actual effort
- Cost variance = baseline (i) EAC cost – actual cost

An example could be:



Analyze Change Data

Determine the total scope, time, and cost impact for each change type (requested modification, corrective action). Then determine what percentage of the total number of changes were scope, time, and cost drivers for each change type.

		Drivers			Impact		
		RM	CA	Total	RM	CA	Total
Changes	#	3	4	7			
	%	43%	57%	100%			
Scope	#	2	3		7	1	8
	%			71%	88%	13%	
Time	#	1	2		33	27	60
	%			43%	55%	45%	
Cost	#	3	1		$14,732	$6,932	$21,664
	%			57%	68%	32%	

Project Closure and Learning

Step 4 — Evaluate Processes and Documentation

To evaluate the processes used during the project, use a questionnaire to solicit information from all project stakeholders. The list of processes might include:

- Product development methodology
- Communication process
- Change control process

The list of questions related to each process might include:

- Was the process followed as documented?
- Was the process used outside of its intent?
- Was the process effective?
- Was the process expedient?
- What worked well with the process?
- What did not work well with the process?

Use the same approach to evaluate the documentation used during the project. The list of documents might include:

- Project charter
- Project plan
- System requirements
- Design specifications

The list of questions might include:

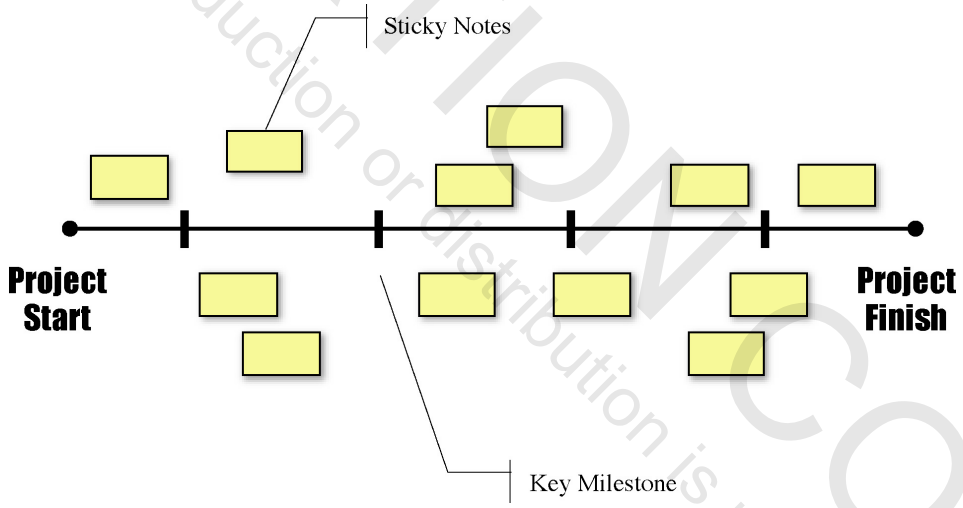
- Did the document provide value?
- Was the document approved in a timely fashion?
- Was the document or its components written to a sufficient level of detail?
- Did the document reflect consensus among all parties?
- Did the document undergo significant change after sign-off?

Step 5 — Documenting Project Events and Circumstances

Use a timeline session to gather the project's important events and circumstances. The session requires a facilitator, conference room, and snacks. Plan for up to three hours for this meeting. All project participants should be present, ensuring that all perspectives are heard.

Use the following steps to document the project events and circumstances:

1. Attach a long piece of paper horizontally on the wall or use a long white board. Draw a horizontal line from end to end. Mark the left-hand end of the line with a "start" and the right-hand end with a "finish."
2. Between the start and finish, mark milestones, phase separators, major deliverables, and horizon lines.
3. Have all participants attach sticky notes on the line to record events and their circumstances.
4. When all the events have been placed on the line, walk through the timeline from start to finish, review the sticky note information, and refine it as required.
5. Finalize the information and record it on a separate piece of paper.



Some examples of events and circumstances could be:

- The time when various project participants were identified and brought onto the project
- Unforeseen events during the project (e.g., staffing or stakeholder changes, world events, corporate events, etc.)
- Risks that emerged
- Recognition of critical issues (e.g., resource availability, estimating accuracy, etc.)

Project Closure and Learning

Step 6 — Generating Lessons Learned

Lessons learned can be both positive and negative. Some things we may have tried did not work, and we want to warn others not to try it. Other things may have worked well beyond our wildest hopes. By documenting these lessons, other project teams can benefit from the experience gained. Sometimes, the lessons learned are combined with the final report. In other cases, the lessons learned are filed with the project records and also in a central "lessons learned" file system. The central file system allows other project personnel to search for lessons early in their projects. These may help them either avoid a problem or improve the effectiveness of their project. Steps in this part of the process include:

1. **Lead a lessons learned session involving everyone**. Plan for up to three hours for this meeting. This will typically be a follow-up meeting to the project events and circumstances meeting.
2. By this point in the process, most of the history related to the project is captured and available for review. Next, **identify the project's MAJOR strengths and weaknesses**, what worked well and what did not. There should not be more than a half-dozen of these.
3. **Isolate the causes of these strengths and weaknesses**. Remember that cause-and-effect is often not linear in nature. Projects are systems that exist within corporate systems. The cause may not be readily apparent. Take enough time to dig past the easy answer.
4. Once you identify the causes, **make recommendations that prevent the negatives and encourage the positives**. Document these somewhere that encourages review and use on future projects.

Documenting well-prepared lessons learned is a challenge in project closeout. The team is ready to move on to other priority work. Other stakeholders start to lose interest in this project as deliverables are made. Issues addressed at the end of the project tend to be remembered. Problems faced much earlier in the project may be forgotten or downplayed. Team members may not want to remember bad experiences.

Make sure the team and other stakeholders understand that the purpose of lessons learned is to learn how to do the work more effectively and to provide valuable insights to the people who will work on future projects. Many times people are reluctant to document negative results because they feel it is a confession about their job performance. There may be concern that a negative lesson learned will be used to allocate blame. The project manager can ensure that lessons learned are viewed from the most beneficial perspective. This can be partially achieved by putting emphasis on lessons learned as an important activity.

Step 7 — Finalize and Share the Project Closure Report

A final report documents the history of the project. The report can take various forms depending on the organization's approach to project and knowledge management. In some organizations, the final report is the last deliverable, containing a synopsis of the project's history, including successes and problems. In other organizations, the project plan is updated a final time to reflect the ending status of the project. Formal acceptance of this report by the sponsor or senior management then releases the project manager from his or her responsibility on this project.

Step 8 — Celebrating the End of the Project

Projects have beginnings and ends. If the ends are not fully recognized, the beginnings become less distinct. There is always a reason to celebrate the end of a project. If it ends successfully, celebrate the results. If it ends unsuccessfully, celebrate being done with it. A few ways to celebrate include:

- Afternoon off for the team
- Team lunch off-site
- Team dinner with spouses (include babysitting)

Remember to budget for the celebration early in the project. Celebrations usually have labor and other costs associated with them. The cost is often a very small percentage of the overall budget. A $1,000 party in a $500,000 project represents a 0.2 percent investment of the total project budget. Rarely will a stakeholder forego such a major benefit for such a small budgetary impact. There is a major return on investment from these events. Returns are frequently realized on the next project. Therefore, encourage other project managers to celebrate so you can reap the benefit too.

Project Closure and Learning

Step 9 — Archive the Project Records

After the completion of the project, all pertinent project records should be stored. Apart from providing a history of what happened on the project, these records can have future value. For example, the WBS and schedule can provide insight and help in the planning of future projects. Other key aids are the actual cost and time needed to complete the project. These can provide invaluable historical information for use in estimating future projects. Such use can only occur if the information is archived in a manner that makes it both accessible and easy to understand. Many organizations specify both the content and format required for archived project records to make future use easier.

Many projects need to be properly archived for legal purposes, such as future audits or lawsuits. These situations are almost impossible to foresee, and a failure to archive project records in an orderly manner is difficult to recover from 10 years later.

Step 10 — Conduct Follow-Up Surveys as Negotiated

Finally, some organizations use follow-up surveys with customers after the deliverables have been in use for a period of time, such as three months. The purpose is to see if the customer is still happy and to make sure that nothing has happened to diminish the utility of what the project produced. The project team is usually disbanded by this time, so the survey is performed by another group such as a project office, marketing, or quality control group — usually depending on the nature of the project and whether the customer is internal or external.

Key Learning Points

- Project closure provides value to the current project by ensuring an orderly turnover of deliverables and brings the project to an orderly end.
- Project closure can provide immeasurable value to future projects by making each project an opportunity to learn and to teach.
- Learning from projects is much harder than many people realize. "Effects" we see in projects often show up much later than their causes. The delay makes the cause and effect relationship difficult to see. Instead, we often fix the wrong thing in future projects.
- Two kinds of meetings occur during project closure. They should be conducted separately:
  - Closeout (or turnover) meetings
  - Lessons learned meetings