

A Primer for the Project Management Process

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Description

Overview

This primer for a Project Management Process provides an integrated framework for project organization, planning and control which is designed to:

- ensure the timely and cost-effective production of all the end-products,
- maintain acceptable standards of quality,
- achieve the benefit for which the enterprise investment in the project has been made.

This publication may serve as a guide to understanding one set of formal means to initiate, control and close projects successfully. This process is focused on the information technology project domain, and has been successfully applied in structured software development and system integration projects with firms in multiple industries.

STAGE/STEP/TASK SUMMARY LIST

Project Initiation

PI Step 01: Project Kick Off

- .010 Recruit Project Sponsor
- .020 Recruit Project Initiation Stage Manager
- .030 Review Related Studies
- .040 Prepare Project Initiation Kick Off Plan
- .050 Brief The Team
- .060 Initiate Stage Control Procedures
- .070 Review Project Kick Off
- .080 Kick Off Project Initiation

PI Step 02: Project Objective & Scope

- .010 Establish Project Objective
- .020 Establish Scope of Investigation
- .030 Identify Initial Requirements
- .040 Identify Outline Solution
- .050 Identify Training Requirement
- .060 Review Project Scope

PI Step 03: Project Schedule and Budgeting

- .010 Determine Project Approach
- .020 Determine Project Stages and Steps
- .030 Determine Stage and Step Product Workflow
- .040 Estimate Duration
- .050 Establish Resource Requirements
- .060 Prepare Project Schedule
- .070 Prepare Project Budget
- .080 Create Project Schedule Products
- .090 Document Project Process Success Criteria
- .100 Review Project Schedule

PI Step 04: Stage Schedule and Budgeting

- .010 Determine Next Stage Activities
- .020 Determine Product Workflow
- .030 Estimate Effort
- .040 Allocate Resources
- .050 Prepare Stage Schedule
- .060 Prepare Stage Budget
- .070 Baseline Stage Schedule
- .080 Create Stage Schedule Products
- .090 Review Stage Schedule Products

PI Step 05: Project Organization

- .010 Identify Key Personnel
- .020 Recruit Project Board
- .030 Recruit Stage Manager
- .040 Recruit Project Coordinators
- .050 Recruit Key Stakeholders
- .060 Recruit Stage Teams
- .070 Recruit Key Resources
- .080 Determine Training Requirements
- .090 Create Project Organization Chart
- .0100 Review Project Organization

PI Step 06: Project Control Procedures

- .010 Set Up Project Administration
- .020 Establish Quality Control Procedure
- .030 Establish Progress Control Procedures
- .040 Establish Project Control Factors
- .050 Establish Change Control Procedures
- .060 Establish Issue Resolution Procedure
- .070 Review Project Control Procedures

PI Step 07: Business Case

- .010 Determine the Project Costs
- .020 Quantify Benefits
- .030 Determine Breakeven Point
- .040 Analyze Risk
- .050 Review Business Case

PI Step 08: Project Initiation Stage Assessment

- .010 Compile Project Initiation Report
- .020 Prepare Project Initiation Stage Assessment
- .030 Conduct Project Initiation Stage Assessment
- .040 Follow-Up Project Initiation Stage Assessment
- .050 Compile Small Project Initiation Checklist
- .060 Prepare Small Project Assessment
- .070 Review Small Project Assessment
- .080 Follow-Up Small Project Assessment

Project Control

PC Step 01: Stage Kick Off

- .010 Setup Stage Administration
- .020 Establish Checkpoint Cycle

- .030 Initiate Stage Version Control
- .040 Acquire Stage Resources
- .050 Brief The Team
- .060 Initiate Stage Control Procedures

PC Step 02: Project Board Meetings

- .010 Determine Frequency of Project Board Meetings
- .020 Schedule Project Board Meetings
- .030 Brief Project Board
- .040 Prepare for Project Board Meeting
- .050 Conduct Project Board Meeting
- .060 Follow-up Project Board Meeting
- .070 Project Initiation Stage Project Board Meeting
- .080 End of Stage Project Board Meeting
- .090 Intra-Stage Project Board Meeting
- .0100 Project Closure Project Board Meeting

PC Step 03: Quality Control

- .010 Schedule Quality Review
- .020 Prepare for Quality Review
- .030 Conduct Quality Review
- .040 Follow-up Quality Review
- .050 Review Quality Control Procedures

PC Step 04: Progress Control

- .010 Capture Performance
- .020 Update Schedule
- .030 Update Costs
- .040 Re-plan Stage Schedule
- .050 Conduct Team Status Review
- .060 Create Status Report
- .070 Update Stage Schedule
- .080 Create Flash Report

PC Step 05: Change Control

- .010 Request Change
- .020 Identify Alternative Solutions
- .030 Decide Change Actions
- .040 Implement Change

PC Step 06: Issues Management

- .010 Identify Project Issue
- .020 Assess Impact of Issue
- .030 Resolve Issue

PC Step 07: Exception Situation

- .010 Analyze Cause of Exception Situation
- .020 Create Exception Plan
- .030 Prepare for Exception Assessment
- .040 Conduct Exception Assessment
- .050 Follow-up Exception Assessment

PC Step 08: Stage End Assessment

- .010 Close Stage Administration
- .020 Determine Next Stage Activities
- .030 Determine Activity Dependencies
- .040 Estimate Effort
- .050 Allocate Resources
- .060 Prepare Next Stage Schedule
- .070 Prepare Next Stage Budget
- .080 Baseline Next Stage Schedule
- .090 Update Project Schedule
- .0100 Review Project Budget
- .0110 Review Business Case
- .0120 Review Project Organization
- .0130 Review Project Scope
- .0140 Compile Stage End Assessment Report
- .0150 Prepare Stage End Assessment
- .0160 Conduct Stage End Assessment
- .0170 Follow-up Stage End Assessment

Project Closure

PCL Step 01: Final Product Evaluation

- .010 Prepare Product Evaluation
- .020 Conduct Product Evaluation
- .030 Initiate Maintenance Process

PCL Step 02: Project Completion

- .010 Close Outstanding Project Work
- .020 Prepare for Project Closure Meeting
- .030 Conduct Project Closure Meeting
- .040 Follow Up Project Closure Meeting

PCL Step 03: Process Improvement

- .010 Prepare End of Project Review
- .020 Conduct End of Project Review
- .030 Update Process Metrics

.040 Implement Process Improvement

Project Initiation

Objective

To

- take the ideas and intentions of a group of people who see the need for a project in their organization and convert them into a formal, planned, resourced and funded project,

in a way that

- clearly and explicitly defines the objectives and scope of the project,
- develops an overall schedule of activities and resources (project plan) required to carry out the whole project,
- develops a detailed schedule of activities and resources (stage plan) required to carry out the next stage of the project,
- defines a project organization structure which can be used to effectively manage and carry out the necessary work,
- establishes a convincing business case for the project,
- gains commitment and approval to the project from the appropriate level of senior management,

so that

- the project is firmly set up for success, and
- the probability of producing a high quality product on budget and on schedule is maximized.

Overview

At the start of any project, there will be a variety of ideas and opinions about the purpose and scope of the project, what the final product of the project will be, and how the project will be carried out. The Project Initiation Stage is concerned with taking these ideas and intentions and developing them into a formal, planned, resourced and funded project.

In order to define a project in this way, it is first necessary to clearly and explicitly define what the project is intended to achieve and what its scope of interest will be. By defining this first, a benchmark is created for assessing the quality of what is actually produced at the end of the project.

It is also necessary to develop a process by which the project objectives can be achieved. This process will typically involve carrying out a number of tasks and producing a number of products during the course of the project. The tasks

produce the products. For clarity of purpose and for control reasons it is useful to arrange these tasks in a top down structure, which progressively specify the required work in more detail.

This is called a work breakdown structure. Our methodology provides a series of standard work breakdown structures for strategic planning and applications development. However, it is important to look for opportunities to customize this for the particular circumstances of the project and its objectives. The work breakdown structure will provide a benchmark by which the quality of the project process can be assessed.

The Project Initiation Stage must also define what resources and associated time commitment are required to carry out the project. The work breakdown structure provides a basis from which this estimation can be carried out. The resource and time commitment can be used to calculate an end date for the project and an estimate of its cost. This information is key input into the establishment of a business case for the intended project.

The overall project schedule is not at a sufficient level of detail to enable the allocation of actual resources to tasks, or to control progress. It is necessary to produce a more detailed plan for these purposes. This detailed plan is only produced for the next stage of the project, usually covering an elapsed time of two to four months.

The way the project is managed and executed is the key to its success. The involvement of the right people for data capture and decision making is also crucial. It is necessary to identify and recruit these people at the start of the project and to define the project organization structure. It is also necessary to establish the procedures that will be used by the people in the Project Organization Structure to carry out and control the project work.

Finally, in order to establish a resourced and funded project, it is necessary to establish a clear and convincing business case for the project. This business case should be reviewed, and hopefully accepted by management. The business case will identify the projected benefits of meeting the objectives of the project, and balance these against the costs and risks associated with realizing these benefits. The business case can also be used as a benchmark to compare against actual results, costs and benefits in order to assess the ultimate success of the project.

The Project Initiation stage is described here as a sequence of steps. In reality, once the objective and scope have been defined, many of these steps occur in parallel, and the step products are developed iteratively, since there are many dependencies between the steps. It is necessary to plan the Project Initiation stage, albeit in an informal manner. Therefore it is important to create a Project Initiation Kick Off Plan scheduling the activities and resources.

At the start of the project it will be necessary to classify the project by size:

- Small (3 to 20 elapsed days)
- Medium (1 to 3 elapsed months)
- Large (4 to 9 months).

Projects of greater than 9 months should be organized as a program containing multiple, but discrete, medium and large projects.

Regardless of size, all projects will need to address the factors described above. What will vary is how long it takes to execute, and the detail of the product. Project Initiation should be conducted in a relatively short timeframe when compared to the rest of the project. Small projects should take one or two days, whereas medium to large may take two to four elapsed weeks. Small projects will produce a Project Initiation Checklist. Medium and large projects will produce a Project Initiation Report.

The Project Initiation Report is an overall plan for carrying out the whole project, and a more detailed plan for the next stage of the project. It consists of:

- clearly defined objective,
- clearly defined dimensions of scope,
- overall schedule of activities for the project (project plan),
- project organization,
- clearly defined project control procedures to check and confirm quality, usage of resources, costs and time, manage change and track issues,
- clearly stated business justification for the project,
- project budget.

In addition to the above, the plan for the next stage consists of:

- detailed schedule of activities for the stage (stage plan),
- quality review standards for products to be produced,
- identified resources and associated costs ,
- control tolerances.

By completing the Project Initiation Stage, the chances of a successful conclusion to the project will significantly increase.

Upon completion of the Project Initiation stage the Project Board will make one of two decisions:

- Go / No Go for the whole project.
- Go / No Go for the next stage.

The "go / no go" decision for the whole project generally applies to small and medium projects, where the detailed stage plan will be for the whole project. The "go / no go" decision for the next stage generally applies to large projects. The next stage will usually be a detailed analysis of requirements. At the conclusion

of this stage the project plan will be updated and a detailed stage plan for the next stage created. A recommendation to proceed will then be taken to the Capital Acquisition Committee (CAC) for funding the entire project.

Step 01: Project Kick Off

Description

Objective

To

- produce a plan which defines how to perform the Project Initiation Stage itself,

in a way that

- ensures the involvement and commitment of the key people who see the need for the project and also of those who will fund it,
- takes account of the background to the project and of previous and related initiatives,
- establishes a team to carry out the Project Initiation Stage,

so that

- a clear and explicit plan is available for setting up the project.

Overview

As the Project Initiation Stage is concerned primarily with producing a plan for the overall project, so the Project Kick Off Step is concerned with producing a plan for the Project Initiation Stage.

Project Kick Off is therefore concerned with producing a plan of the work required to produce a plan for the whole project.

The Project Kick Off step is concerned with carrying out a high level review of the background to the project and of related initiatives, recruiting the involvement of those senior people who will be the ultimate customers and sponsors of the project, reviewing and customizing the standard work breakdown structure for the Project Initiation Stage and setting up a small team to carry out the Project Initiation Stage. The manager for the Project Initiation stage may be different to the manager of subsequent stages.

When scheduling the Project Initiation activities, understand that there is great deal of interdependency between the steps. Project Kick Off should be carried out quickly. If Project Initiation Stage takes four weeks, Project Kick Off should take one day. In order to expedite this stage avoid producing a detailed plan based upon estimates for each task. Review the outline of the Project Initiation Report and determine the number and sequence of interviews, workshops and investigations that are required to create the it.

The end result of the this step will be a Project Initiation Kick Off Plan listing deliverables, techniques, committed resources and timescales for the Project Initiation Stage.

A Project Initiation Kick Off Report is not required for small projects.

Task .010 Recruit Project Sponsor

Recruit a Project Sponsor responsible for the commitment of all resources required to successfully conduct the Project Initiation Stage and to facilitate compliance and commitment to all major project decisions.

This Project Sponsor will chair the Project Board which also includes both Technical and Client representatives. Document the responsibilities to be performed by the Project Sponsor.

It may only be possible to identify the Project Sponsor at this time, with other Project Board members being identified later in Project Initiation when the Project Scope is better understood.

Lack of a Project Sponsor of sufficient seniority is a major risk to the project. It is recommended that no work continues until this is achieved.

Task .020 Recruit Project Initiation Stage Manager

Recruit a Stage Manager for the Project Initiation Stage who has experience in the development approach and/or the business area under study and possesses the level of experience and skill to manage the successful completion of the Stage.

It is likely that the Stage Manager will also fulfill the roles of the Project Co-coordinators until later in Project Initiation. Document the responsibilities to be performed by the Stage Manager.

Task .030 Review Related Studies

Review any previous studies addressing the area of interest. Ensure their content reflects the current situation.

Examples include Terms of Reference, strategic level plans (Information Technology and/or Business), and on-going project documentation where there is a possibility of scope overlap.

Task .040 Prepare Project Initiation Kick Off Plan

There is a great deal of interdependency between the Project Initiation steps and tasks. However it is important to define the project objective and scope first before attempting the remaining steps.

Attempts to create a detailed Project Initiation plan with estimates for each and every task will take far too long. The WBS should be considered more of a checklist. It is important to apply JAD to gather high quality information in a reduced time frame.

Review the activities in the Project Initiation stage and the outline of the Project Initiation Report. The steps equate to the sections of the report. It is recommended that the work be organized around producing the sections of the report. Determine what information is needed and assess the best means of gathering it. This may be in the form of research, interviews and workshops.

Identify the number of workshops. For each one, specify the objective, deliverables and participants.

Identify and recruit additional resources to perform the Project Initiation stage. Business Analysts will be involved in defining objective and scope, determining organization, requirements, approach and costs, coordinating other resources, preparing the recommendation and ensuring the successful completion of the Project Initiation stage. Clients will be primarily involved in determining requirements and preparing the business justification. Systems Analysts may be involved in determining the project approach and selecting the appropriate template.

Identify resources who will be required to review and approve the Project Initiation Report.

Estimate the effort and elapsed time for the remaining activities.

Create the Project Initiation Kick Off Plan listing deliverables, technique, committed resources, start and end dates.

Ensure that each team member knows their project commitments.

Document any assumptions made while producing the Kick Off Plan.

Task .050 Brief The Team

Brief the project team on all aspects of the Kick Off Plan. Publish a summary for absent team members and staff who will be assigned later in the stage.

Task .060 Initiate Stage Control Procedures

Initiate the control procedures that will be used during the stage and ensure that all members of the Project Organization understand the procedures and know their individual responsibilities.

Initiate logs for:

- quality reviews and follow-up,
- change control,
- issues.

Create any files that are needed for the stage. These may be in paper or electronic form.

Task .070 Review Project Kick Off

Review the Project Initiation Kick Off with the Project Sponsor and gain agreement to execute the Project Initiation stage.

Task .080 Kick Off Project Initiation

Arrange a formal Kick Off meeting with all the resources participating in the Project Initiation.

It is important that the project is formally kicked off by the Project Sponsor in order to foster a team spirit. It will also raise the profile of the project in the organization.

Step 02: Project Objective & Scope

Description

Objective

To

- clearly define the project boundaries,

in a way that

- identifies the types of boundary (scope dimensions) relevant to the project,
- takes account of the background to the project,
- explores the variety of objectives and scope that the project could cover,
- clearly and explicitly defines what the project will cover,
- clearly and explicitly defines what the project will not cover,

so that

- a clear and commonly understood target and benchmark is available to project members and other interested parties by which they can steer the direction of the project and assess the quality of the final product.

Overview

It is important to establish at the outset of a project, a precise definition of the purpose and scope of the project to ensure that both Business Partners and Technical personnel are clear about the field of reference.

Any project carried out by an organization should be addressing one or more of the Business Objectives of the organization. If it does not, why is the project being carried out? Therefore to establish the objectives and scope of the project, it is first necessary to identify the overall reason for the project by relating it to one or more objectives of the organization. This will put the project into context for the organization as a whole. It is vital that the project objective be clearly

stated and agreed before proceeding with the rest of Project Initiation. If this is not possible, then do not continue.

The project objective can then be further defined in terms of scope. There are two aspects to project scope, the scope of the investigation, and the scope of the solution. At the start of the project it is unlikely that the problems and requirements will be fully understood. However, in order to avoid wasting time by analyzing irrelevant areas, the scope of investigation will help focus on those areas thought most likely to be impacted by the project. Therefore the scope of investigation may well expand as a better understanding of the problems is achieved. The problems and requirements must be fully understood before a range of cost justified solutions can be proposed. This will avoid the risk of focusing on preconceived solutions, which may well be constrained by current practices, and facilitate creative solutions. The clients will choose a solution based upon cost justification criteria which may exclude some of the original requirements. This scope of solution will be more closely defined and will determine the design and build stages of the project.

Scope can be expressed in terms of dimensions. These include business organization, business functions, data, geography, systems, operating environments, etc. Identify the dimensions appropriate to the project and determine those components in scope and those out of scope.

Scope will be further defined in terms of problems and requirements.

In effect the move from objective to requirements is a continuum illustrating the progressive expansion of the project definition.

Task .010 Establish Project Objective

Conduct workshops and/or interviews with clients to identify the project objective. This must be clearly stated and agreed. The project objective must also relate back to a business objective, to ensure that the project is aligned with the business direction of the organization.

Techniques: Objectives Formatting

Task .020 Establish Scope of Investigation

Determine which dimensions of scope to apply to defining the project.

Diagrammatically represent each dimension of scope, explicitly stating as narrative bullet points what is in scope and what is out of scope.

Identify the constraints, specific limitations or exclusions within which the project must operate.

Record any assumptions made in defining the scope of the investigation.

Techniques: Scoping Diagram
 Data Modeling
 Data Flow Diagrams

Task .030 Identify Initial Requirements

Identify the initial requirements. Validate them against the project objective. The requirements will be fully investigated and described during the next stage.

Requirements express what the application must achieve (a solution is how it will be achieved).

Conversely, problems express the limitations of the current business and system.

Identify the criteria for assessing the success of both the final project product and the process used to create it (e.g., quality objectives, quantitative requirements, expected benefits).

Techniques: Critical Requirements Analysis

Task .040 Identify Outline Solution

Where possible, prepare an outline solution to illustrate the feasibility of achieving the defined business requirements for the project. Outline the likely nature of the solution, and provide sufficient information for the preparation of a business case.

Techniques: Data Flow Diagrams
Data Modeling

Task .050 Identify Training Requirement

Determine the probable client training and technical writing requirement. This will give the TDC advanced warning of their involvement in the project.

Task .060 Review Project Scope

Conduct a product review of the Objective statement (To, in a way that, so that... construct) and Scope definition documents to ensure the scope meets the business needs and all standards are met.

Step 03: Project Schedule and Budgeting

Description

Objective

To

- develop an overall time schedule for the project,

in a way that

- defines the overall development approach for the project,
- selects the appropriate template,
- produces a customized work breakdown structure (task list) specific to the project,

- creates a range estimate for the target completion date, and the associated total cost of the project,
- identifies the major Project Board control points,
- identifies the Client, development and operations resources required to carry out the project,
- identifies hardware, software, contractor and training resources required to carry out the project,

so that

- a schedule is available to guide the project and to use as a benchmark by which progress on the project can be monitored and controlled.

Overview

Once the objective and scope are decided, it is necessary to determine what activities are required to be carried out to meet the objective. The dependencies between these activities can then be determined, which in turn allows resources and timescales to be estimated.

This needs to be done for the whole project (project plan), and then in more detail for the next stage of the project (stage plan). This step is concerned with the overall project. The project schedule is not intended to direct resources to specific activities on certain dates.

The ideal situation is to have a proven process on which to base the tasks for the project. This may be a standard IT process or an outside process. It may be necessary to build a process from a series of kernels (common steps).

Once a process is chosen, this should then be customized to the particular needs of the project.

If a proven process is not available, it will be necessary to develop a process for use on the project which conforms to the stage, step, task construct.

Once this has been done, it is necessary to estimate the resources, both client and technical, required for the project. This should be expressed by resource type or role (e.g., Client Accounts Clerk, Systems Analyst, Analyst Programmer) rather than by individual. It should cover all personnel resources required, both full and part time.

The requirements for other types of resource, such as office space and equipment, should also be determined. A time line and cost estimate for the project can then be developed.

The development of the project schedule is an iterative activity during Project Initiation. The other steps carried out in Project Initiation will affect the schedule.

The project plan applies to large, multi-stage projects. For medium sized, single stage projects it is not necessary to create a project plan. The detailed stage plan will define the whole project from beginning to end.

Task .010 Determine Project Approach

The purpose of the project schedule is to provide an overall structure to the project. The top-down stage and step estimates will be validated and revised as and when each stage schedule is produced with detailed bottom-up estimates.

Review the Selecting and Adapting Guidelines within the Template section of the Process HyperGuide to assist in determining the appropriate template. Additionally, review the Concepts section for a specific template.

Either;

- Select a process template from the Process Library whose selection criteria most closely match the project characteristics and risk profile, or
- Select the "Basic Work Breakdown Structure" in the Process Library and expand by including predefined kernels and creating customized steps and tasks.

Software Guidelines

Task .020 Determine Project Stages and Steps

Review the stages and steps from the chosen process template.

Based upon the project objective, scope, constraints and assumptions, tune the project work breakdown structure to:

- Add new stages and/or steps,
- Remove unnecessary stages and/or steps,
- Merge stages and/or steps,

Removing stages and steps will probably increase project risk. Document the risks and identify proposed countermeasures.

Review, and revise as appropriate, the predefined stage and step objective and overview statements.

Create objective statements, using the "To, in a way that, so that..." construct, for each custom built stage and step.

Create stage and step overviews. The stage overview should include a brief rationale for the proposed stage and step selection and sequencing. Record all assumptions and issues identified.

Review and revise the products to be produced by each stage. Start at the end of the project with the final deliverable, and work forwards to the beginning. Describe the objective, outline and content of each product. Validate the final product against the project objective. For each stage product, break it down in to interim or step level products. Again, describe the objective, outline and content of the step products. This exercise will confirm that the primary project deliverables are clearly defined and understood.

Software Guidelines

Task .030 Determine Stage and Step Product Workflow

Chart the sequence of stages and steps to reflect the intrinsic and architectural dependencies inherent in the project.

An output of one step will be the input to another. Some inputs may be sourced from outside the project. These External Inputs (e.g., Standards, Project Initiation report of another project, etc.) must be identified. The project products and external inputs will primarily determine the step dependencies.

Define the dependencies, and dependency type, between the steps. Steps within a stage are not necessarily finish-start, but may be in parallel or phased. Stages may also run in parallel with one another. Do not specify dependencies at the stage level.

Ensure that all dependencies with other projects are identified. Examine other Project Initiation Reports to assess inter-project dependencies.

Record all assumptions and issues identified.

Software Guidelines

Task .040 Estimate Duration

Project schedule estimates will be determined as duration or elapsed time. Determine the duration for each step. It is recommended that you estimate in units of a day. Step level estimates are unlikely to be less than one day. When estimating duration, include expected non-productive and non-effective time.

Alternatively, produce an initial top-down estimate for the each stage and apportion to the component steps.

It may be desirable to express the stage and step estimates as ranges, namely best case and worst case. In this case create a single estimate as above and then extrapolate the best and worst cases. Document with supporting assumptions.

Software Guidelines

Task .050 Establish Resource Requirements

When estimating duration, define an initial requirement for resources. For the project schedule, it is sufficient to estimate the number of each type of resource required, rather than specific people, e.g., 2 Programmers. Concentrate on identifying the resource types who will either be part of the project team or who will have a significant impact on the project.

Document the initial resource requirements, since if these assumptions are invalid (e.g., Step 020, duration 30 days, resource requirement 2 Programmers) then the step estimates will need to be revised. Documenting assumptions also facilitates recreation of the estimates, and "what if analysis".

Convert the number of resource types in to a chargeable resource equivalent. This is a function of the number of chargeable resource types and their assigned time (including overheads of non-productive and non-effective time). Differentiate between Internal Staff Resource Equivalent and External Staff Resource Equivalent. For example, a step requiring 1 programmer assigned 50%, 2 contract programmers assigned 100%, and a DBA assigned for 25% of the time will have an Internal Resource Equivalent of $0.5+0.25$ or 0.75, and an External Resource Equivalent of $1.0+1.0$, or 2.0. This resource equivalent will be used to calculate initial project costs.

Also identify other resources required for the project e.g. equipment, accommodation etc.

The estimating and initial resourcing tasks as interdependent and will be done interactively.

Software Guidelines

Task .060 Prepare Project Schedule

Develop an initial schedule of project activities.

Determine the proposed project start date and use the scheduler to calculate the stage and step start and end dates.

Validate these dates against the project constraints. Adjust scope, dependency and resources until a satisfactory balance is achieved. Revise any assumptions that have been modified.

Software Guidelines

Task .070 Prepare Project Budget

Estimate the internal and external staff costs by step. Staff costs are a function of step duration, resource equivalent and chargeable rate.

Estimate non-staff costs by step:

- Hardware
- Software
- Project Training, for the project team to develop the application
- Installation Training, for clients, operations, etc. to use the application
- Miscellaneous, includes supplies, copying and printing, accommodation, subsistence, travel, or other costs which cannot be classified above.

Aggregate the costs by stage.

Software Guidelines

Task .080 Create Project Schedule Products

Produce and collate the project schedule documents at stage and step level:

- WBS Description Report,
- Products Report,
- Project Costs Report,
- Gantt chart,
- PERT chart.

Software Guidelines

Task .090 Document Project Process Success Criteria

Determine how the success of the project process will be measured and record as a series of success criteria.

These will be used to measure the success of the process used on the project.

Task .100 Review Project Schedule

Conduct a product review of the Project Schedule and Budget to ensure that the scope meets the business needs and that all technical standards are met.

Step 04: Stage Schedule and Budgeting

Description

Objective

To

- develop a time schedule and budget for the next stage of the project,

In a way that

- defines the tasks necessary to carry out the next stage of the project,
- determines the best approach to completing each activity,
- identifies the tools for performing the project work,
- identifies actual resource requirements,
- determines task and resource dependencies,
- creates an estimate for the cost of the stage,
- creates an estimated completion date for the stage,

So that

- a schedule is available to guide the next stage and to use as a benchmark by which progress on the project can be monitored and controlled.

Overview

An overall project schedule is required to determine complete project timescale, resource requirements and costs. A more detailed schedule is required to manage and control the project. This more detailed schedule is developed progressively through the project by producing a schedule for the next stage during Project Initiation and towards the end of subsequent project stages.

The overall project schedule provides a overview of the activities in the stage. These activities need to be further defined to the point where all necessary tasks have been identified. This should use the same approach as for developing the overall project schedule. That is, using a proven process, or developing the process if one does not exist.

Once this has been done it is necessary to estimate the resources required for the stage. This should cover all personnel resources required, both full and part time, and other types of resource such as office space and equipment. A time line and cost estimate for the stage can then be developed.

The development of the stage schedule is an iterative activity during Project Initiation. The other steps carried out in Project Initiation will affect the schedule.

For single stage projects, the stage plan is both the project and stage plan.

Task .010 Determine Next Stage Activities

Based upon the project and stage objective, scope, constraints and assumptions, tune the stage work breakdown structure to:

- Add new steps and/or tasks,
- Remove unnecessary steps and/or tasks,
- Merge steps and/or tasks,

The project plan identified the probable steps within the stage. Now is the opportunity to reassess the steps and their associated objectives and products. Removing steps and tasks may increase project risk. Document these risks and identify proposed countermeasures, which may include additional quality assurance tasks.

Determine the products to be produced by each step. Start at the end of the stage with the final deliverable, and work forwards to the beginning. Describe the objective, outline and content of each product. Validate the final product against the project and stage objective.

Within each step, identify the tasks or activities required to produce the step products. A task will have the following characteristics:

- Reference

- Name
- Description
- Input
- Output or product
- Technique (optional)
- Tool (optional)
- Role / responsibility assignment
- Resource / responsibility assignment
- Effort estimate

In this task define the Task Reference, Name, Description, Product, Techniques and Tools.

Record all assumptions and issues identified.

Software Guidelines

Task .020 Determine Product Workflow

Chart the sequence of stages and steps to reflect the intrinsic and architectural dependencies inherent in the project.

An output or product of one task will usually be the input to another, and this will be the primary driver in determining the task dependencies and workflow.

Determine whether the successor task references (throughput) or updates (entry requirement) the input product.

Some inputs may be sourced from outside the project. Identify these External Inputs (e.g., Long Range System Plan, Standards, Project Initiation report of another project, etc.).

Review the dependencies determined by the task inputs and outputs. Review the dependency types between the tasks. Tasks are not necessarily finish-start, but may be in parallel or phased. Where appropriate, define lags (both positive and negative) between tasks. Remove any step dependencies. It is recommended that the dependencies be kept simple and reduced to a minimum, otherwise the schedule will be very difficult to execute and will probably be abandoned.

Ensure that all dependencies with other projects are identified. Examine other Project Initiation Reports to assess inter-project dependencies.

Record all assumptions and issues identified.

Software Guidelines

Task .030 Estimate Effort

Stage schedule estimates will be determined as effort time (or work). Determine the total effort per task. Remember to include peer review and revision time if such activities are not identified as specific tasks. It is recommended that you estimate in units of an hour. Avoid estimating tasks to less than one hour. It is advisable to estimate in units of 4 hours. No task should be longer than 80 hours.

By combining small tasks and including a detailed description of the task it will be possible to simplify the schedule merely by reducing the number of tasks in the Gantt.

The task effort estimates will be apportioned to individual roles and resources in the next task.

Record all assumptions supporting the estimate in the task description. This is very important because it will enable you to recreate and substantiate the estimate. It will also ensure that you have thoroughly throughout what is to be done, and that it is communicated clearly to the Team. Estimating takes time, but it will validate the tasks, products, techniques and assumptions.

Aggregate the task estimates and compare against the original top-down step and stage estimates. If the detailed estimate is substantially different from the original top-down estimate it may be necessary to refer to the Project Board and consider revising both the project and stage plans.

Software Guidelines

Task .040 Allocate Resources

Assign roles and their associated responsibility to each task. In order to avoid overwhelming the plan with complexity focus on the "produce", "consult" and "review" responsibilities. The "approve" responsibility will generally apply only to the Project Board. The responsibilities are defined as follows:

- Produce: to create the product of the task. Usually applies to Project Team Members like Business Analysts, Systems Analysts and Programmers. The schedule will be simpler to balance if only a single role is assigned per task.
- Consult: provide information required to produce the task. Usually applies Coordinators and Key Resources.
- Review: review the product for correctness, accuracy and completeness. Usually applies Coordinators and Key Resources.
- Approve: official signoff. Usually applies to the Project Board.

Assign resources to the roles and responsibilities.

Apportion the total task effort estimate to the resources. As a tip, the schedule will be much easier to balance if the task effort estimate is apportioned entirely to

the a single "produce" resource. Therefore this estimate should include time for the other "consult" and "review" resources, e.g., Client review, DBA review. Although this is a simplification, it is still applicable if the non-project team costs are excluded from the plan, since the estimates are primarily for the Project Team. The "consult", "review" and "approve" resources still need to be assigned to tasks, albeit at zero work, in order for them to be included in the schedule.

Define by task the resources availability (unit). The scheduler will calculate task duration as effort / unit.

Software Guidelines

Task .050 Prepare Stage Schedule

Develop an initial schedule of project activities.

Determine the proposed stage start date and use the scheduler to calculate the step and task start and end dates. Validate these dates against the project constraints.

Review the project objective, constraints and control factors before attempting to balance the plan. Deadline, resource utilization and costs can be adjusted as follows:

- Modify dependencies,
- Modify dependency type (finish-start, lag, etc.),
- Modify tasks and therefore the effort estimate (avoid arbitrarily reducing estimates),
- Assign more resources (task duration will theoretically be reduced if more resources are applied to the task),
- Reassign more proficient resources,
- Provide productivity enhancing tools,
- Train and coach team members,
- Motivate team members,
- Increase resource availability.

Modify task descriptions and assumptions to record all the adjustments to the plan. Failure to do this will result in a mismatch between the original plan and the current schedule, and reduce the probability of project success.

Software Guidelines

Task .060 Prepare Stage Budget

Determine staff costs at the task level. This is a function of the resource work and chargeable rate. The Process Manager will supply standard hourly rates for both Internal Staff and External Contractors.

Determine non-staff costs for the stage by category. The categories are:

- Hardware & Network
- Software
- Project Training, training the project team to execute the project
- Installation Training, training the clients, operations, etc. to use the application
- Miscellaneous, includes supplies, copying of training materials, accommodation, subsistence, travel, or other costs which cannot be classified above.

Software Guidelines

Task .070 Baseline Stage Schedule

Once a satisfactory balanced stage schedule and budget has been achieved, baseline it. This will retain a record of the original start and end dates, work and duration estimates, and staffing costs

Actual progress will be monitored against this baseline.

Software Guidelines

Task .080 Create Stage Schedule Products

Produce and collate the project schedule documents at the step and task level:

- WBS Description Report,
- Products Report,
- Resource Report,
- Baseline Stage Estimates,
- Baseline Resource Work
- Cost Workbook,
- Gantt chart,
- PERT chart,
- Resource Usage
- Project Summary Report

Software Guidelines.

Task .090 Review Stage Schedule Products

Conduct a product review of the Stage Schedule Products with the Process Management Group to ensure that the scope meets the business needs and that all technical standards are met.

Communicate the plan to the Project Board since it is a "contract" stating what is to be done, how, when and by whom. If the Project Board accepts the plan, then they are committed to supply the resources, both client and technical.

The Project Board will assign a project or stage start date for the schedule when they authorize the project to proceed. This may require some minor adjustments to the schedule.

Communicate the plan to the Project Team since it defines exactly what is to be done. Hopefully they will have been heavily involved in producing the plan so there should be no surprises and they will have already bought in to it.

Step 05: Project Organization

Description

Objective

To

- select and prepare the people whose involvement will be necessary for the project to succeed,

In a way that

- clearly identifies roles and responsibilities,
- ensures that the best individuals to fulfill roles and responsibilities are selected,
- identifies training required to enable individuals to fulfill their roles and responsibilities on the project,
- gains the appropriate allocation of resource time to the project,
- ensures that all major interest groups are appropriately represented,
- updates the project and stage schedules in line with available resources,

so that

- the project benefits from having a group of people who can operate in an integrated fashion and who understand exactly the roles they must play in contributing to the success of the project.

Overview

Once the objectives of the project have been identified and a work breakdown structure developed for how to meet these objectives, it is necessary to plan for the people involvement on the project.

An important step in this planning is to identify the required roles and responsibilities. This methodology provides a standard set of roles and responsibilities for a project and it is necessary to review this list and customize it for the particular project.

The Project Board is the most senior level of Project Organization and has the responsibility of ensuring the continued integrity of the project from all points of view. The structure of the Project Board reflects the tripartite responsibility that exists in any project, namely the Business, Customer, and Technical interests. The Board should be prepared to recommend termination of the project if necessary.

The Stage Manager is recruited by the Project Board to ensure the successful completion of the stage products, on time, within budget and to the specified quality standards within an agreed tolerance.

The Stage Manager may be recruited from any area concerned with the project, or may be from outside the immediate organization. The Stage Manager may need help with the business, customer, or technical aspects of the project. This help is provided by appointing a co-coordinator for each of these areas. This ensures that the main interests being served by the project are properly represented at the working level, e.g. through participation in quality reviews. This also provides continuity in the day to day coordination of the project especially where there are to be changes of Stage Manager.

There are likely to be a number of key individuals within the organization that have an interest in, and can facilitate the project. They will receive regular progress reports on the project, and will be invited to attend Project Board meetings.

The time commitment required for the project will vary for each role and responsibility identified. It is important that the individuals selected to carry out the various roles can devote the time that the project requires.

Once the roles, responsibilities, and time requirements for each activity are defined, it is possible to assign individuals to perform the activities. It will often be necessary to assign individuals to the project who do not have all the skills required to perform their roles. Therefore, it is necessary to identify what additional training these individuals require.

Individuals then need to be made available for their involvement on the project.

Task .010 Identify Key Personnel

Review the project Scoping Diagram. Identify those business areas that are within scope or directly interface with the scope boundary and list them in the "Business Area" column of the Project Assignment Worksheet. Project Organization members will be selected from these groups. Do not forget to include development and operations.

- Which areas will be directly impacted by the project?
- Which areas are not impacted today but may be impacted in the future?
- Which areas will the project team have to depend on for information about the way things are done today?
- Upon which groups will the project depend for success?

Identify the key personnel for each area and list them in the "Person" column of the Project Assignment Worksheet. Do not allocate roles in this task, just list any personnel you think should be involved in the project.

Task .020 Recruit Project Board

Assemble a senior management team which will direct and be accountable for the project and gain management commitment. Ensure that those senior Managers with a significant interest in the successful outcome of the project are properly represented.

Generally identify the lowest level person for each Project Board role. Work up the organization chart until a person is found who can make the decisions "stick".

Project Sponsor:

- Which client executive will champion the project and sell it to the rest of the company?
- Who is responsible for funding?
- Who will be the link between the project and the company strategy team?
- Who is ultimately responsible for the success or failure of the project?

There may be several candidates, but there is only one Project Sponsor!

Client Representative:

- Who will represent the clients most affected by the delivered project?
- Who will ensure that the project is aligned to the client business need?
- Who will provide client resources for the project?
- Who will remove any barriers present in the client area?

Ideally there should be only one client representative, but there may need to be more than one because no single person has authority over all the client areas within project scope. However, the more Project Board members, the more difficult it is to schedule them and obtain decisions.

Technical Representative:

- Who will provide technical resources for the project?
- Who is ultimately responsible for the technical quality of the project products?
- Who will remove any barriers in the development and operations area?

Ensure that the Project Board members understand their responsibilities and the time commitment that they are making to the project. Document the responsibilities to be performed by the Project Board.

Task .030 Recruit Stage Manager

Identify a suitable manager for the next project stage, bearing in mind the nature and importance of the activities involved.

- Who will manage the project on a day-to-day basis for this stage?

The person selected must be made available for the time required by the project. It is suggested that it takes up to 15% of a Stage Manager's time to plan, control, review, coach, etc. each team member. A project team of 6 people is almost a full time job. There must be a recognition by the Stage Manager and the Project Board that project management takes time, that it is an investment in project success, and not a cost. The Stage Manager is not necessarily from development. Sometimes the best person to manage the Project Initiation and Installation stages of the project is a client.

Document the responsibilities to be performed by the Stage Manager.

Task .040 Recruit Project Coordinators

Identify the need for coordination and control activities throughout the project. These are supporting roles to the Stage Manager. They may be filled by the Stage Manager if the project is relatively small. They may also be filled by Key resources.

Planning Co-coordinator:

- Who will help the stage manager create the plans, capture actual work and costs, update plans, etc.
- Who is experienced with using the project scheduling tools?
- Who has strong administrative skills?
- Who has a detailed knowledge of the development project management standards?

Client Co-coordinator:

- Who will assist in obtaining detailed information about how a client area works?
- Who knows how the client area is organized?

- Who can assist in identifying the best Key Resource from a particular client area?

Technical Co-coordinator:

- Who can facilitate the identification of project tasks required to produce the required products?
- Who is skilled in the techniques used to create products?
- Who can ensure the technical quality of products?
- Who can assist in identifying the best Key Resource for a particular technical issue?

Clearly define these co-ordination and control activities and identify and brief suitable personnel to carry them out. Document the responsibilities to be performed by the Coordinators.

Estimate the time required to perform these roles, and ensure that the individuals selected have the necessary time available.

Task .050 Recruit Key Stakeholders

Identify other people who are critical to the success of the project. They are management level personnel who will be affected by the project, but are not the primary decision makers. Clearly define who these people are and what their responsibilities are to the project.

- Who could slow down the project if they opposed the approach or project?
- Who might informally assist the Project Board in evaluating objective, scope, solution and financial viability?
- Who is not on the Project Board, but leads a client area included on the Project Assignment Worksheet?
- Who has people in their area whose jobs may be impacted by the implemented project?
- From whom is political buy-in required?

Document the responsibilities to be performed by the Stakeholders.

Estimate the time required to perform these roles, and ensure that the individuals selected have the necessary time available.

Task .060 Recruit Stage Teams

If there is confidence that the Project Initiation will result in an immediate authorization to proceed to the next stage then perform this task now. If not, then it will be performed after the Project Board authorizes the project to proceed as part of the next stage planning.

There are two types of team members, client and technical. People assigned to team member roles will usually fulfill the "produce" responsibility for tasks.

Team members may change from stage to stage as different skill sets are required.

Identify appropriate personnel required for the stage, define the team structure and, if necessary appoint Team Leaders.

Ensure that the time commitments required for the project are defined and understood by team members and their management, if appropriate. Document the responsibilities to be performed by the Team members.

The appointment of the Team Leaders and Stage Teams completes the process of delegating responsibility for the work down through the now established Project Organization structure.

Task .070 Recruit Key Resources

If there is confidence that the Project Initiation will result in an immediate authorization to proceed to the next stage then perform this task now. If not, then it will be performed after the Project Board authorizes the project to proceed as part of the next stage planning.

Identify any additional technical or business specialists required to support the project. These roles contribute to the creation of products by providing information about the business and reviewing the products. They generally fulfill the "consult" and "approve" responsibilities. They will include both client and technical personnel. Individuals assigned to a Key Resource role may also have project co-coordinator responsibilities, but will not be team members. Key Resources may change during the project depending on the skills required by the WBS.

Business Key Resources:

- Who will use the application?
- Who will provide the client information to create the products?
- Who can ensure that the business requirements are correctly understood?
- Who can ensure that all the business requirements are captured?
- Who will assist in establishing and confirming the business case?
- Who has specialist skills required at this stage (legal, audit, Health & Safety, etc.)?

Technical Key Resources:

- Who can ensure that technical products meet the technical standards?

- Who has specialist skills required at this stage (DBA, Communications, Networks, Back-ups, Security, etc.)?

Clearly define the responsibilities of these resources and estimate the time required by these Key Resources over the duration of the project. Document the responsibilities to be performed by the Key Resources.

Task .080 Determine Training Requirements

Assess the capabilities and skills of all those identified as part of the Project Organization.

Based upon this assessment establish a training plan to acquaint the project team members with the methodologies, technologies, and business areas under study.

It may be the first time that some clients have been involved in a development project so it is important that they are adequately briefed as to the project management and development process, and especially their roles and responsibilities. The Project Organization step is intended to ensure that the clients, development and operations are working as a single team on the project, and that artificial organizational barriers are removed.

Update the project schedule to incorporate scheduled training activities.

Task .090 Create Project Organization Chart

Using the Project Assignment Worksheet, allocate the identified personnel to one or more roles.

Ensure all key individuals are assigned an appropriate role, but don't overwhelm the project with too many people.

Produce a Project Organization Chart defining reporting and communication lines between all parties involved in the project.

Task .0100 Review Project Organization

Conduct a product review of the Project Organization to ensure that the proposed organization reflects all participants needed to achieve the project objective.

Step 06: Project Control Procedures

Description

Objective

To

- ensure that all procedures required to carry out and control project work are established,

In a way that

- identifies all necessary procedures,

- defines appropriate standards,
- defines necessary performance levels and tolerances,

So that

- all project work is carried out as effectively as possible.

Overview

There should be clearly established control procedures for any piece of work. A Project is not an exception to this rule, but due to the nature of projects, these procedures are often not readily available. It is therefore necessary to identify what procedures are required and to define these procedures.

Any established project control procedures that an organization has in place should be incorporated into the project plan. Procedures to consider are:

- Quality Control
- Progress Control
- Change Control
- Version Control
- Issue Resolution

Any existing procedures should be modified if necessary for the project. Additional procedures may be required, depending on the nature of the project.

The project and stage schedules need to incorporate project control tasks, and may need to be updated as a result of defining the control procedures.

Step 06: Project Control Procedures

Task .010 Set Up Project Administration

Create an electronic file structure to consistently maintain the administration of plans, progress, status reports, change control and issue management.

Task .020 Establish Quality Control Procedure

Determine the mechanisms to be used to ensure the quality of products produced during the project.

Task products may be subject to informal peer review. These task products should be small and the peer reviews frequent, since defects can be quickly identified and corrected with minimal rework.

Step products will be subject to formal review, with defects being recorded and assigned for correction.

Specify for each product the Co-coordinators and Key Resources who will perform the quality reviews.

See the "Quality Control" process for more details.

Task .030 Establish Progress Control Procedures

Set up the infrastructure to facilitate:

- capture of actual effort and re-estimated effort to complete,
- weekly status meetings to discuss achievements, forthcoming work, and issues,
- production of weekly status reports.

See "Progress Control" process for more details.

Task .040 Establish Project Control Factors

Determine the project Control Factors.

It is important to agree in advance with the Project Board the "elasticity" of the project, so that the suitable controls are applied in response to deviations from the plan.

The Project Dimensions are:

- Cost: the total cost of personnel and non-personnel resources,
- Schedule: the stage end dates,
- Performance: the quantity and quality of products.

They can be controlled by the following Management Directives:

- Maximize: the project dimension which will be most tightly controlled, with the least permitted deviation, to achieve project success,
- Constraint: the next most important dimension which will be optimized within the constraints of the first,
- Accept: the dimension whose performance (or lack of) will have to be accepted to achieve the first and second.

A directive can be assigned to only one project dimension.

Example 1: to meet the schedule end date, while constraining costs, we will accept a lower quality product.

Example 2: to achieve a high quality product, while constraining costs, we will accept a later finish date.

Quantify the tolerances with respect to schedule, cost and quality before the Project Board is automatically alerted.

Task .050 Establish Change Control Procedures

Identify the need for change control on the project.

A change request may require rework to both completed products and those under development, as well as future tasks. If it is not controlled then it will impact the project schedule and costs, and quality of the final product.

Define the levels of change control to be used to control changes to each type of product for this stage.

Create a Change Control Log.

See "Change Control" process for more details.

Task .060 Establish Issue Resolution Procedure

Create the Issue Log.

See "Issue Resolution" process for more details.

Task .070 Review Project Control Procedures

Conduct a review to ensure that the standard Project Controls are in place.

Step 07: Business Case

Description

Objective

To

- prepare a business case which compares the benefits and costs of the proposed project,

in a way that

- looks creatively for all possible areas of benefit,
- thoroughly researches all areas of cost,
- quantifies benefits in financial terms wherever possible,
- quantifies cost in financial terms,
- provides an assessment of the risks of the project and ideas on how they can be reduced,
- draws conclusions about the merits of the case,
- offers alternatives where appropriate,

- revises other sections of the project plan,

so that

- senior management has good quality quantitative information to guide their decision as to whether to proceed with the project.

Overview

One of the objectives of the project initiation stage of a project is to gather sufficient information to assess whether it is worthwhile to proceed.

Other Project Initiation steps will develop much of this information. This step extends that information with financial values to provide a business case for the continuation of the project.

One essential piece of information which has not been addressed in previous steps is the identification of the benefits of the project. These must be researched and documented.

The benefits can be compared against the costs which are included in the project budget.

These two basic sets of information are then compared and analyzed to ensure that proceeding with the project makes sense from a financial perspective.

This step also examines the risks associated with the project, which need to be considered by senior management (the Project Board), when making decisions about the project. Risks associated with the project as it has been defined in the other Project Initiation steps are examined, and actions to reduce, mitigate, or eliminate the risks are identified.

The risks of not carrying out the project are the risks associated with not achieving the benefits identified for the project.

In developing the Business Case, it may be necessary to adjust other parts of the project plan, including the Scope, Project and Stage schedules, and the Project Organization.

Task .010 Determine the Project Costs

Review the project budget and determine that all development costs have been identified.

The project constraints will have stated the maximum project cost. This task is intended to develop an initial project budget within these constraints.

Develop an initial project level estimate of costs. As with the sliding planning window, this project level estimate is intended to give an overall cost of the project. It is a top-down estimate, and will be revised and revalidated at the end of each stage. Although there will be many assumptions, it is very important that an initial estimate of project costs is completed. Failure to produce an initial estimate of project cost, with supporting assumptions and caveats, will tend to

suggest that the project objective, scope, approach and resourcing have not been properly thought through.

Estimate costs by the following categories:

Development (including Conversion and Installation)

- Staffing, internal and external resources who will chargeable to the project, e.g., project team, contractors, trainers, technical writers, etc.
- Hardware, includes purchases and licenses
- Software, includes purchases and licenses
- Project Training, for the project team to develop the application
- Installation Training, for clients, operations, etc. to use the application
- Miscellaneous, includes copying and printing, office space, accommodation, travel, subsistence, supplies or other costs which cannot be classified above.

Operational & Maintenance

- Staffing, operations, maintenance, support, clients, trainers
- Hardware, includes purchases, licenses, machine time, telecommunications, data storage
- Software, includes purchases and licenses
- Miscellaneous, includes copying and printing, office space, accommodation, travel, subsistence, supplies or other costs which cannot be classified above.

Aggregate the Development costs by stage.

Task .020 Quantify Benefits

Identify and quantify all benefits associated with the final product of the project. Attempt to put a financial value on each benefit, so that the benefits are tangible.

During project scoping Critical Requirements Analysis will have identified and qualified the major requirements. The technique requires that "Performance Criteria" and "Performance Levels" be identified for each Critical Performance Area (CPA). The major requirements will be identified and associated with the corresponding CPAs. It is therefore possible to extrapolate this further and place a value upon a requirement and quantify the benefits.

For example: The performance criteria for the CPA "Perfect Order" may be the number of incorrect orders per 1000 orders processed. The current performance level is 50 per 1000. The required performance level is 10. The clients, in conjunction with the project team, are expected to be able to translate this reduction of errors from 50 to 10 into a \$ value.

Define for each benefit, when it is expected to be accrued. It is very useful to be able to map out the expected benefit through time since it will re-enforce the justification of the project.

Quantifying the benefits is an excellent way of setting realistic business expectations of the project.

Document any calculations used to determine tangible benefits since it will be necessary to repeat the calculation process in subsequent stages of the project.

Task .030 Determine Breakeven Point

Establish the breakeven point for the project as a whole

Create a cost worksheet which charts accumulated costs and accumulated benefits through time. Generally, costs are incurred prior to accruing the benefits. Where the benefit line crosses the cost line will indicate the expected breakeven point.

Review whether the projected breakeven point is acceptable. The longer the breakeven point, the less chance that it will ever be achieved.

Task .040 Analyze Risk

Determine the risks associated with conducting the project. Risks tend to be factors which are not within the control of the project manager, but which could nevertheless result in the failure to achieve the project success criteria.

Conduct a Risk Analysis. Risks can be categorized as:

- External Dependencies,
- Organizational,
- Planning,
- Business Case,
- Technical.

Evaluate each risk factor within these categories and determine a value. Aggregate the risk values by category to determine low, medium and high risk areas.

The real benefit of this exercise is not in determining a numeric value, but in identifying areas of the project which are exposed to risk.

Identify the medium and high risk factors and determine appropriate countermeasures to reduce, mitigate or eliminate the risks. Where appropriate include these countermeasures as steps and tasks in the project and stage plans. Document the assumptions in the task descriptions and cross reference them back to the project risk factors.

Task .050 Review Business Case

Conduct a product review of the Business Case to ensure that the Business Case is complete and accurate.

Step 08: Project Initiation Stage Assessment

Description

Objective

To

- document the results of the Project Initiation stage and to have the results reviewed by management,

In a way that

- provides a comprehensive package of information from which a decision can be made,
- gains agreement on the scope of project,
- gains agreement on the overall approach and schedule for the project,
- gains agreement on the Business Case for the project,
- gains agreement on the Project Organization,
- gains commitment to making the necessary resources available for the project,
- gains agreement to the approach and schedule for the next stage of the project,
- gains agreement to the control procedures defined for the project,
- provides a record of the project and stage plans for use in managing and controlling the project if it gets authorization to proceed,
- confirms that the Project Initiation stage is complete,

so that

- a decision can be made as to whether to commit to and authorize the project.

Overview

An Stage End Assessment should be held at the end of every stage in the project. The Project/Stage Manager and Project Team report their progress and recommendations to the Project Board to gain the Board's approval to proceed with the project.

The work carried out in the Project Initiation steps is collated into a single product.

For small projects the document is the Project Initiation Checklist. This single product comprises objectives and scope, organization, tentative schedule and estimate, milestone activities and products, business case, and risk analysis.

For medium and large projects the document is the Project Initiation Report. It consists of:

- Project Objective
- Project Scope
- Project & Stage Schedules
- Project Organization
- Project Control Procedures
- Business Case for the project
- Risk Analysis
- Recommendation

For medium projects the Project Initiation Report will include the detailed schedule (Stage Plan) for the entire project. A "go / no go" decision will be made for the entire project by the Project Board.

For large projects the Project Initiation Report will include the project level schedule (Project Plan) and a detailed schedule (Stage Plan) for the next stage only. A "go / no go" decision for the next stage will be made by the Project Board. Upon completion of this next stage, a recommendation to proceed with the entire project will be made to the Capital Acquisition Committee. The Project Schedule consists of:

- Project Level WBS Description
- Major Products List
- Overall Project Schedule

The Stage Plan for the next stage consists of:

- WBS Description Report
- Products List
- Resources Requirement (including roles and responsibilities)
- Baselined Stage Schedule
- Cost Worksheet for the next stage

By agreeing to the plans, the Project Board are committing to the provision of funding and other resources, and understanding and accepting the assumptions, pre-requisites and risks. They must ensure that appropriate Progress, Quality and Change Control procedures are being administered effectively.

Task .010 Compile Project Initiation Report

For medium and large projects, collate all the elements of the Project Initiation Report, and the project and stage plans, into a single product for review by the Project Board.

Task .020 Prepare Project Initiation Stage Assessment

Decide what decisions the Project Board must make. These will cover issues that have arisen during Project Initiation, and the decision on how to proceed with the project.

Determine the recommendations to be made to the Project Board concerning those decisions. If the development Stage Manager and the Client Co-coordinator disagree, then record both with supporting arguments.

Determine the information the Project Board needs to make the decisions.

Determine the best way to provide that information to the Project Board.

Prepare advance material for the Project Board.

Arrange and schedule a Project Board meeting and send out the advance material.

Prepare a structured agenda for the Project Board meeting.

Prepare a brief report covering the work carried out during the stage.

Task .030 Conduct Project Initiation Stage Assessment

Follow the prepared agenda and present the results of the stage to the Project Board.

Make recommendation.

Task .040 Follow-Up Project Initiation Stage Assessment

Update the Project and Stage Plans based on the decisions made by the Project Board.

Create a Stage End Approval Report and obtain Project Board signatories. Record any qualifications.

Task .050 Compile Small Project Initiation Checklist

For small projects, create the Small Project Initiation Checklist. Attach the original Blue Form.

Task .060 Prepare Small Project Assessment

The Project Initiation Checklist is to be reviewed by the following parties in order to obtain the "go / no go" decision:

- Client Originator,
- Client Originator's Manager (Department Manager),
- development Project Manager,
- development Manager.

By agreeing to the Project Initiation Checklist the parties are committing to the provision of funding and other resources, and understanding and accepting the assumptions, pre-requisites and risks.

Determine the best way to obtain this decision. Either distribute the Project Initiation Checklist to the individuals or organize a meeting.

Task .070 Review Small Project Assessment

Ensure that the parties clearly understand the character of the project, and how it will be executed. Provide the parties with adequate information to enable them to make a "go / no go" decision. Assess the urgency of the project relative to other outstanding projects. Where possible set an expectation of the project Start and End date.

Task .080 Follow-Up Small Project Assessment

Authorized small projects will be subject to the Small Project prioritization process. Rejected small projects are removed from the prioritization process.

Project Control

Objective

To

- manage project work during a stage and prepare for the next stage,

in a way that

- controls project progress,
- controls the quality of project products,
- controls any changes that occur to previously agreed products,
- manages the configuration of the component products of the stage and the project,
- resolves any issues identified during the stage,
- provides consistent reports to management as defined in the stage schedule,
- controls the commitments of the project team and the expectations of the client,
- provides appropriate decision making information,

so that

- this stage can reach a successful conclusion and the project can progress to the next stage.

Overview

During a project stage, the focus should be on carrying out the work planned for the stage. However, there are many project management activities that need to be carried out in addition to the project work itself. In this methodology, these activities are arranged into a series of steps. These steps fall into four categories:

- a step to initiate the stage,
- steps that are carried out on an on-going basis throughout the stage,
- steps that are carried out at the end of the stage,
- a step that is only carried out in an exception situation.

Most of these activities are planned for in the project and stage planning. The procedures that are defined during Project Initiation, and are revised during further stage planning, are followed in these steps.

The Project Management activities include:

- monitoring and controlling project progress, through the use of regular checkpoints involving the project team and formal reviews with the Project Board,
- controlling the quality of products,
- controlling the way changes to baselined products are implemented,
- controlling and resolving issues that arise during the course of the project.

Several of the activities will result in changes to the stage schedule. The Stage Manager should ensure that these changes are made smoothly, and that these changes are communicated to all concerned. Any changes made to individual work assignments should be confirmed in the regular checkpoint meetings.

In the event of a stage tolerance being exceeded, an exception situation will arise. The Stage Plan will be replaced by an Exception Situation Report which will explain how the exception arose, the options examined, and the proposed actions.

Step 01: Stage Kick Off

Description

Objective

To

- start the project work on the stage,

in a way that

- gains agreement and commitment to the stage plan from the project team,
- sets up the project administration,
- initiates the on-going day by day execution of stage activities,
- initiates the stage control procedures,

so that

- the project team members can begin to work as a team for the success of the stage and project.

Overview

Once the Project Board has authorized the project to proceed with the stage, it is important to make a successful start to the work. Brief the project team on achievements to date, the more detailed plans for the current stage, and their place within the context of the overall project. There may be new team members who need to be briefed on all aspects of the project and existing team members may need to be brought up to date with any changes to the overall project plan.

Electronic and hardcopy file structures are set up to consistently maintain and administer project management and development products.

All control and documentation procedures for the stage should be established and the team should understand what these are for, how they are used, and what their individual responsibilities are.

It is possible that the stage schedule is not at a sufficient level of detail to manage and control the project on a day to day basis. This level of control may be achieved using a commitment calendar, which details each person's work on the project for a rolling four week window. This is initiated at stage start up and updated regularly as the project progresses.

Task .010 Setup Stage Administration

The Process Manager will assign each new project a project mnemonic or acronym which is to be used in all naming conventions.

Set up the project administration. Paper based and electronic versions will be maintained concurrently. Establish the Directories and create a master index.

Setup a hardcopy Project Binder with the following sections and contents:

Plans

- Project Initiation Report,
- Baselined Stage Schedule,
- Progress Control Tracking Schedules,
- Summary Cost Worksheet.

Change

- Change Control Requests,
- Change Control Log.

Issues

- Issue Log

Quality

- Quality Review Schedule,
- Quality Review Agendas,
- Quality Review Exception Item Lists.

Status

- Status Reports
- Flash Reports
- Stage End Report(s)
- Stage End Approval Report(s)

Create the following Server based PMC directory structure for the project:

Plans

- Project Initiation Report,
- Baselined Stage Schedule,
- Progress Control Tracking Ganttts,
- Summary Cost Worksheet.

Change

- Change Control Requests,
- Change Control Log.

Issues

- Issue Log

Status

- Status Reports
- Flash Reports
- Stage End Report(s)
- Stage End Approval Report(s)

Task .020 Establish Checkpoint Cycle

Establish the project checkpoint cycle.

It is recommended that the checkpoint cycle be of one week duration. Determine the start and end day.

For example, Checkpoint Cycle of Thursday thru Wednesday. Progress will be captured for the period 8.00am Thursday through to 5.00pm the following Wednesday. The plans will be updated for the Status Meeting on Thursday.

Task .030 Initiate Stage Version Control

Create one or more Development Product Directories, as appropriate, to file either electronically or on paper where the stage development products will be located.

Update the Process Engineer Project File with the Product path for each development product. This will support document management and access.

Products which have a Quality Review status of "QR Complete" or "QR Qualified & Complete" will be require a baseline version number. If a product is made up of multiple components, establish a version number for each component.

Identify the team member who will exercise configuration control for the development products. This role will be responsible for controlling the revision of versioned products.

Task .040 Acquire Stage Resources

Acquire the resources required to carry out the stage.

Task .050 Brief The Team

Brief both the project team and the key resources on the expectations for the stage.

Walkthrough:

- stage objective,
- planned activities,
- products,
- organization, roles and responsibilities,
- metrics,
- project controls.

Task .060 Initiate Stage Control Procedures

Initiate the control procedures:

- Checkpoint Cycle,
- Progress Controls,
- Status Reporting,
- Change Control Log,

- Issue Log,

Step 02: Project Board Meetings

Description

Objective

To

- setup and manage an effective Project Board,

in a way that

- ensures that all Project Board Members understand and accept their roles and responsibilities,
- ensures the Project Board provides executive direction to the project,
- ensures the Project Board is notified of project status and issues on a timely basis,
- enables the Project Board to provide guidance to the Project Manager,
- enables the Project Manager to obtain executable decisions,
- guarantees ownership of the project by the Project Board,

so that

- the project is organized for success.

Overview

The Project Board is the executive authority of a project. It authorizes the project to proceed, change direction or stop. It enters in to a contract with the Project Manager through the Project Initiation, Project and Stage Plans, to provide the executive support and resources required to execute a project which will deliver the specified products to schedule and budget. In effect, the Project Board acts as the project guardians, enabling the Project Manager and Project Team to do their job protected "from the arrows of outrageous fortune".

The Project Board is not expected to have a close day to day association with the project, that after all is the responsibility of the Project Manager. However, they do need to meet with the Project Manager periodically to review the achievement of objectives, scope, schedule, budget and quality products, and to resolve outstanding issues and change requests.

The Project Board should view the project as an investment intended to yield significant business benefits. Failure to achieve those benefits reflects as much upon the control exercised by the Project Board as it does on the execution of responsibilities by the Project Manager and Project Team.

Task .010 Determine Frequency of Project Board Meetings

The frequency of Project Board meetings is a function of:

- the experience and expertise of the Project Manager,
- the size and complexity of the project,
- the requirement for senior management direction and support,
- the length of the stage,
- the overall project risk,
- the overall project cost,
- the magnitude of the loss resulting from project failure.

As a minimum the Project Board will meet at the end of each stage, including Project Initiation, to review the achievements of the concluded stage and authorize proceeding to the next.

The following table provides some qualitative guidelines for determining the frequency of Project Board meetings, including those at the end of each stage.

| | |
|------------------------------|--|
| Factor | Calculation |
| Project Manager's experience | High = 0, Moderate = 1, Low = 3 |
| Project size | No. of major sub-projects |
| Stage duration | <2 months = 0, 2-4 months = 1, 4+ months = 3 |
| Overall project risk | Low = 0, Moderate = 1, High = 2, Extreme = 3 |
| Project cost | <\$250K = 0, <\$500K = 1, <\$750K = 2, \$750K+ = 3 |
| Mission critical | Yes = 3, No = 0 |
| Total | |
| Frequency Value | Project Board Frequency |
| 15+ | 2 Weeks |
| 11 - 15 | 4 Weeks |
| 06 - 10 | 6 Weeks |
| 00 - 05 | 8 Weeks |

Task .020 Schedule Project Board Meetings

Schedule standing Project Board Meetings for the entire stage.

Task .030 Brief Project Board

Following the recruitment of the Project Board at the beginning of the project it is important to brief all participants to ensure that they completely understand their roles and responsibilities, and that they accept the commitment.

Generic Project Board responsibilities:

- Responsible for the ultimate success or otherwise of the project.

- Approve project objective, scope, approach, functionality, quality, cost and schedule.
- Set the permitted degree of deviation from planned scope, cost and deadline before the Project Manager is required to report exceptions to the Project Board.
- Ensure the project is aligned with strategic business objectives.
- Ensure the business case is viable, and remains viable.
- Provide required resources and funding.
- Resolve issues and mitigate risks in an expeditious and timely manner when escalated by the Project Manager.
- Authorize progress to next stage.
- Authorize cancellation or suspension of the project.
- Direct their line management to actively support and participate in the project.
- Inform their line management of project status and progress.
- Attend all Project Board meetings.

Sponsor:

- Champion the project throughout the organization.
- Obtains resolution of major project issues through more senior management intervention.

Client Representative(s):

- Represent the client business areas most affected by the final results of the project.
- Authorize the allocation of appropriate and sufficient client resources to the project team.
- Ensure the delivered system will work in the business organization.

Technical Representative(s):

- Represent the technical interests of development and/or operations.
- Authorize the allocation of adequate and appropriate technical resources to the project team.
- Ensure the delivered system is consistent with development technical strategy.

- Monitor the successful application of development standards.

Task .040 Prepare for Project Board Meeting

It is the responsibility of the Project Manager to schedule standing Project Board meetings at the beginning of the project. Confirm the logistics of the next meeting, namely date, time and conference room.

Create the meeting agenda. It is recommended that you use the Word 6.0 Agenda Wizard (standard style) to create the agenda. This Wizard also creates the skeleton meeting minutes. Confirm the agenda with the Project Sponsor.

Assemble any additional documentation that requires reading as preparation for the Project Board meeting.

Distribute the meeting agenda and additional documentation at least 3 days prior to the meeting.

Confirm individual Project Board member attendance. Where a Project Board member is unable to attend, it is that individual's responsibility to arrange a substitute, and to notify the Project Manager.

Identify a documenter to take meeting minutes.

Task .050 Conduct Project Board Meeting

The Project Manager will conduct the meeting according to the agenda.

See the tasks below for suggested discussion points for specific types of Project Board meeting.

Confirm attendance and logistics of the next meeting.

Task .060 Follow-up Project Board Meeting

Create the meeting minutes. It is recommended that you use the Word 6.0 Agenda Wizard (standard style) to create the meeting minutes. Distribute to all Project Board members. File a copy in the Project Binder.

Task .070 Project Initiation Stage Project Board Meeting

The Project Initiation Report is the contract between the Project Manager and Project Board concerning the execution of the project. Although this meeting is not intended as a detailed "line item" review, it is important that the Project Board fully understand and accept the Project Initiation Report. If the Project Board authorizes the project to continue they must be prepared to provide unconditional support to the Project Team.

Topics for discussion include:

Project Initiation

- Project objective statement
- Scope

- Initial requirements
- Constraints
- Project approach (stage objectives)
- Project and stage products
- Project organization (project board, key stakeholders and project coordinators)
- Resource equivalent requirements
- Project costs, benefits and viability
- Risks and issues
- Recommendation

Project Plan

- Project schedule

Stage Plan

- Stage and step objective statements
- Stage and step products
- Stage schedule, including probable start date
- Project team resources
- Key client and technical resources

Task .080 End of Stage Project Board Meeting

Review the Stage End Assessment Report. The objective is identify key learning's from this stage and apply them to the next stage. It is all a matter of reducing risk and setting realistic expectations. Consider the following questions:

Objective

- Is the project objective statement still valid?
- How has the objective statement changed?

Scope

- Were all the tasks completed as specified?
- Were any tasks not executed and why?
- Were any additional unplanned tasks executed and why?

- Were the tasks executed in the planned sequence, and if not, why?
- Has scope changed without being subject to a formal change request?
- How many change requests were received, analyzed, accepted and or rejected?

Schedules

- Did the stage exceed schedule, and if so, by how much and why?
- What recovery actions, if any, were taken?
- Was a Tracking Gantt chart maintained?
- How effective were the progress controls?

Cost

- Did you monitor stage costs?
- Did the stage exceed budget, and if so, by how much and why?
- What recovery actions, if any, were taken?

Products

- Were the planned products produced?
- What planned products were not produced and why?
- What additional products were produced and why?
- What additional products should have been produced?
- Did the format and medium of products change from plan?
- Where is the Quality Plan?
- What products failed quality review, or were accepted with qualification?
- How effective was the quality review process?
- Do the products provide an effective baseline for future development and maintenance?

Client Alignment

- Are client representatives still committed to the project?
- Did the project organization (system and business) present obstacles to progress?

- Were the clients available when required and for long enough?
- Did the clients effectively participate in the project?
- How often did the Project Board meet?
- Did the Project Board meet as scheduled?

Issues

- Are there any unresolved business issues?
- Are there any unresolved technical issues?

Risk

- Did the Critical Success Factors correctly identify possible risks?
- What additional factors impacted the project?

Review the Project Plan

- Revised project schedule
- Revised project costs
- Revised project benefits

Review the Next Stage Plan

- Stage and step objective statements
- Stage and step products
- Stage schedule
- Project team resources
- Key client and technical resources
- Recommendation

Task .090 Intra-Stage Project Board Meeting

Agenda items for discussion include:

- Project progress
- Stage progress vs. schedule
- Actual stage costs vs. budgeted stage costs
- Quality Plan

- Issues Log (including specific decisions required of the Project Board)
- Change Requests (awaiting authorization)
- Change Request Log
- Risk and mitigation measures

Task .0100 Project Closure Project Board Meeting

Report to the Project Board the results of the Post Implementation Review. This assesses the performance of the new system against the objectives planned. It also identifies and captures metrics and factors that will improve the development process.

Determine whether the project achieved it's objectives and whether it was a success.

Evaluate team achievements and determine suitability of awards.

Step 03: Quality Control

Description

Objective

To

- confirm that a product is complete,

in a way that

- involves business and technical staff,
- ensures that products meet defined technical standards,
- ensures that products meet business requirements,
- ensures clarity of the product,
- ensures that there is no ambiguity in the product,
- establishes a baseline version of the product,
- continually improves the quality control procedure,

so that

- the related project activities can be signed off as completed and the project can progress.

Overview

ISO9001 definition of quality; "The totality of features and characteristics of a product or service which bear on its ability to satisfy a given need".

Work on a product can only be considered complete when the product has been tested against acceptance criteria, that have been previously established for the product. It is important that those criteria are established in advance, since it is difficult to produce a product if you do not know what it is you are trying to produce.

When quality control is correctly applied, it can make a project team more effective, since it prevents situations where work has been carried out based on a product that is not acceptable.

Establish the degree of quality control to be applied to each product during the planning work for a stage. This step is used when a product is thought to be complete, and the product is either confirmed as complete, or corrected until it is confirmed as complete

The underlying quality principle applied in this methodology is that a quality product is achieved by using a quality process, and quality control is a final, but necessary step in that quality process. The quality process itself should be reviewed to ensure that it is achieving the objectives set for the process.

Task Summary

- .010 Schedule Quality Review
- .020 Prepare for Quality Review
- .030 Conduct Quality Review
- .040 Follow-up Quality Review
- .050 Review Quality Control Procedures

Project Control : Step 03: Quality Control

Task .010 Schedule Quality Review

Schedule the Quality Reviews for the current stage.

The WBS identifies the resources fulfilling the "review" responsibilities. The schedule will determine when the Quality Reviews need to take place. In practice these dates will need to be adjusted to fit individual's calendars.

Alternatively, Quality Reviews can be explicitly defined as separate milestone tasks, without successors.

It is recommended that Quality Reviews be scheduled at the beginning of the stage to occur regularly every two or three weeks. This will ensure that reviewers are aware well in advance when they are to participate, and it will reduce scheduling conflicts. It will also motivate the project team to create small products at regular intervals. Quality Reviews can always be postponed if the products are not ready for review.

Software Guidelines

Task .020 Prepare for Quality Review

Create a Quality Review Agenda specifying the objective, products, logistics, roles, responsibilities and agenda of the Quality Review.

Distribute the Quality Review Agenda and the product to the reviewers not less than 3 working days prior to the review.

The reviewers are required to review the product before the Quality Review meeting. They will annotate the product with comments and errors.

Clients will review the product to ensure accuracy and completeness of business content.

Technical reviewers will evaluate the product against specific standards which define the structure, format and content of the product.

Task .030 Conduct Quality Review

The Quality Review is to be conducted in a structured and formal manner. Participants will fill the following roles:

Facilitator

- schedules and arrange review logistics,
- chairs the Quality Review,
- ensures successful execution of the Quality Review according to the agenda,

- ensures that the appropriate follow-up action is taken,
- notifies the Stage Manager of the results,
- files the Quality Review Exception Item List in the Project Binder.

Reviewer

- identifies deficiencies in the product in the light of their prepared comments,
- does not suggest solutions in order to expedite the review.

Author

- presents the deliverable,
- provides clarification, but not to defend the product,
- understand identified deficiencies,
- corrects the product after the Quality Review.

Documenter

- record identified deficiencies in the Quality Review Exception Item List (Item #, Reviewer, Product Section, and a Comment on the deficiency).

At the end of the Quality Review the status of the product will be determined:

- "QR Complete", whereby the product is complete and meets the prescribed quality standard.
- "QR Qualified & Complete", whereby some deficiencies have been identified to be corrected, but does not require another formal Quality Review.
- "QR Qualified & In Progress", whereby the deficiencies are sufficiently numerous or serious to warrant correction and another formal Quality Review.

Task .040 Follow-up Quality Review

For products with a status of:

"QR Complete", the Facilitator will notify the Stage Manager who will update the product status from "In Progress" to "QR Complete".

"QR Qualified & Complete", the author will correct the product from the Quality Review Exception Item List and annotated copies of the product. The author may wish to discuss solutions with other individuals, including the reviewers. The author will also update the Quality Review Exception Item List with the "Action" taken. Upon completion the author will notify the Stage Manager who will update the product status from "In Progress" to "QR Qualified & Complete".

"QR Qualified & In Progress", the Facilitator will notify the Stage Manager who will update the product status from "In Progress" to "QR Qualified & In Progress". The author will correct the product from the Quality Review Exception Item List and annotated copies of the product, and schedule another Quality Review. The author will also update the Quality Review Exception Item List with the "Action" taken.

Software Guidelines

Task .050 Review Quality Control Procedures

Review the Quality Review Procedures undertaken during the Stage. Verify that the level of control is appropriate, that the quality objectives for each product are appropriate and that all participants are satisfied both with the process and its outcome.

Step 04: Progress Control

Description

Objective

To

- monitor and control progress on the project,

in a way that

- collects actual work and cost performance information,
- collects latest estimates to completion,
- compares actual performance with plan,
- determines the causes of the deviation,
- promotes re-planning,
- identifies out of tolerance situations,
- involves all parts of the Project Organization,

so that

- the project work can be carried out as scheduled.

Overview

It is very unusual for any undertaking to go exactly to plan. Projects are no exception. By the nature of a project, more information is being uncovered all the time which can affect the progress of the project.

It is important to monitor the degree to which the plan is being followed, and to take appropriate action if the project is deviating significantly from the plan.

The progress control procedures that are defined during the Project Initiation stage form the basis of the progress control during project stages. These procedures cover day to day progress tracking amongst the team, up to Project Board reporting.

Checkpoints are held throughout the project at weekly intervals and provide the mechanism for monitoring and controlling the day to day work on the project. Performance information is captured and plans are updated prior to the Project Status meeting. This enables the meeting to concentrate on determining what to do next.

Defining the control procedures includes the setting of tolerance levels for project performance.

When the stage tolerance is exceeded, the Stage Manager should carry out the tasks in the Exception Situation step, to regain control of the project.

Task .010 Capture Performance

Create the timesheets and distribute to the project team members at the beginning of the checkpoint cycle.

Capture from each team member the following:

- actual start date for tasks started this period,
- actual finish date for tasks finished this period,
- actual work (effort) in hours per task this period,
- latest estimated work in hours to complete the task,
- latest estimated elapsed time (duration) in hours to complete the task.

Capture any non-staff costs incurred this period.

Software Guidelines

Task .020 Update Schedule

Update the schedule by task by resource for the following:

- actual start date for tasks started this period,
- actual finish date for tasks finished this period,
- actual work (effort) in hours per task this period,
- latest estimated work in hours to complete the task.

Manually compare the rescheduled completion dates with the latest estimated elapsed time to complete. In order to make the scheduler recalculate an end date compatible with the estimated elapsed time to complete it may be necessary to revise the resource unit value or resource calendar; e.g. A resource is

assigned 50% to a task and the estimated work to complete is 3 days. The scheduler will recalculate the end date to be 6 working days hence. However, the resource has stated that the elapsed time to complete is 10 days because of a training class. In this example, update the resource calendar to remove the 4 days of the class from the calculation.

Software Guidelines

Task .030 Update Costs

Update the Stage Cost Summary worksheet with:

- actual costs incurred this period,
- estimated remaining costs.

Staff costs will be automatically updated from the scheduler, since they are calculated from actual work.

Non-staff costs (Hardware & Network, Software, Project Training, Installation Training and Miscellaneous items) will be updated directly in the Stage Cost Summary worksheet. In practice it is expected that these non-staff costs will be maintained at a stage level, rather than by checkpoint.

Software Guidelines

Task .040 Re-plant Stage Schedule

Review the Tracking Gantt and Cost Workbook and identify any deviation from the baseline. Establish why the deviation has occurred. Refer back to the Project Control Factors to help determine the appropriate corrective action and adjust the schedule accordingly. Actions include:

- do nothing,
- accept a date slippage, within the project tolerance levels,
- adjust staff availability,
- reassign staff,
- assign additional resources,
- coach and motivate the staff to work more effectively,
- resolve scheduling conflicts,
- expedite fuller client participation
- reduce the number of tasks,
- substitute tasks.

Determine if the stage has exceeded the progress, cost and quality tolerance levels agreed with the Project Board. If the stage is out of tolerance then execute the tasks in the Exception Management step to regain control of the project.

Review status of open issues and determine any further action required on these issues.

Review the status of any outstanding quality reviews.

Review any new Change Requests.

Revise the schedule.

Software Guidelines

Task .050 Conduct Team Status Review

Conduct a Status Meeting with the Project Team.

It is beneficial to conduct the Status Meeting according to a formal standard agenda.

Items for discussion are:

- achievements this period,
- planned activities that are incomplete or overdue,
- activities for the next period,
- new issues identified this period,
- issues closed this period,
- summary of results of quality reviews,
- summary of schedule and cost status,
- suggested revisions to the plan,

The Status Meeting is an opportunity to exchange information between all members of the Project Team.

Task .060 Create Status Report

The Status Report provides a record of current achievements and immediate expectations of the project. It provides an accurate history of the project, effectively communicates to all interested parties the current status of the project, and integrates progress tracking, change control and issue management.

Create the weekly Status Report. List:

- accomplishments this period,
- items not completed this period,

- proposed activities for the next period,
- reference new issues identified this period from the Project Issues Log,
- reference any issues resolved this period from the Project Issues Log,
- identify any predicted slippage to the stage schedule, along with cause and corrective action,
- identify any predicted cost overrun, along with cause and corrective action.

Distribute to the Project Team and the development Manager directly responsible for the Project Manager.

Retain an electronic and paper copy of the Status Report.

Task .070 Update Stage Schedule

Following to the Status Meeting make any additional adjustments to the schedule and Stage Cost Summary worksheet.

Software Guidelines

Task .080 Create Flash Report

Create the Flash Report at the end of the month.

Summarize the accomplishments for the month, schedule status, upcoming tasks for the month, and any major issues.

Distribute to the Project Team and Project Board.

Retain an electronic and paper copy of the Flash Report.

Step 05: Change Control

Description

Objective

To

- control the addition of work to the stage activities,

in a way that

- assesses the value of the change request,
- presents alternative solutions,
- assesses the impact of the alternative solutions,

- records all change requests and resulting actions,
- enables changes to completed products,

so that

- the Stage Managers and Project Board can make controlled changes to project scope, schedule and cost.

Overview

As a project progresses, the people involved with the project develop a better understanding of what the end product should be and what they need to do to produce the product. This increased understanding manifests itself as changes to the stage activities, and changes to the products. This will disrupt:

- project and stage schedules,
- project and stage costs,
- project scope,

Such changes cannot always be avoided, but their impact can be predicted and controlled.

Change requests may come from a variety of sources but they will require Project Board sponsorship to be processed. The originator will describe the change request and provide a justification.

Alternative solutions, and their respective impacts on the project, will be identified and a recommendation made.

The recommendation will be presented to the Project Board who will decide whether to accept it or make an alternative recommendation.

Task .010 Request Change

This is a formal request from either a member of the project team, a client, a coordinator or Key Stakeholder to make a change to the project scope or functionality. The originator must obtain sponsorship from a Project Board member for the proposed change request.

The proposed change request will be submitted on a Change Request Form by the originator. Before it can be accepted as a proposed change request the originator must complete the following information:

- Request Title,
- Originator's Name,
- Originator's Phone/Email/Mailstop,
- Sponsor's name,

- Description, of the proposed change,
- Justification, for the change, with quantified benefits,
- Originator's priority.

The Stage Manager will review the change request and assign it to someone to investigate alternative solutions.

The Stage Manager will update the Change Request Form:

- assign a unique Change Request #,
- update the Request Date,
- set status to "Open",
- update "Assigned To" and "Response Date".

The Stage Manager will update the Change Request Log.

Task .020 Identify Alternative Solutions

Evaluate the change request and identify several alternative solutions.

Assess the impact of each solution on:

- Functional Scope, including baselined products, tasks in progress and future tasks,
- Schedule,
- Effort,
- Cost.

One solution may be to reject the change request.

If a solution will force the stage out of tolerance, explicitly state this on the Change Request Form.

Make a recommendation.

Update the Change Request Form with the alternative solutions, their respective impacts, and the recommendation.

Task .030 Decide Change Actions

Present the change request, alternative solutions and recommendation to the Project Board.

The Project Board is required to either accept the recommendation, chose an alternative solution, or request further investigation.

Update the Change Request Form:

- update "Action", "Authorized By" and "Authorization Date".
- set status to "Close"

Change Log:

- update "Status" and "Close Date".

If the Project Board requests further investigation then the Change Request remains open.

Notify the originator of action.

If the chosen solution will cause the stage to exceed the tolerance limits then the Project Board may require the Stage Manager to produce an Exception Situation Report which will replace the Stage Plan.

Task .040 Implement Change

Make appropriate schedule and other project plan adjustments and communicate these to team members impacted. Include activities to monitor progress and execute quality control on the changes.

Step 06: Issues Management

Description

Objective

To

- resolve issues affecting the success of the project,

in a way that

- identifies issues affecting the project,
- assesses the extent to which issues affect the project,
- identifies actions to resolve issues,
- involves the appropriate level of management to make decisions on issues,
- tracks progress on issues,

so that

- the project can be carried out as planned.

Overview

There will always be issues that arise during the course of a project. Some of these issues may have a bearing on the project, and some will be of little consequence.

Issues can arise from within the Project Organization and from the environment that impacts the project.

Any issues that arise should be evaluated and dealt with as efficiently and effectively as possible.

An issue can often linger on, even after it has supposedly been resolved, so it is important to track issues to complete resolution.

Task .010 Identify Project Issue

Identify and describe an issue that is thought to affect the project. Determine whether to pursue the issue and, if any further research is required before assessing the issue, assign someone to research the issue.

Update Issue Log as follows:

- Assign a unique Issue No.
- Issue Title
- Type
 - Internal, where the issue can be resolved by the project team.
 - External, which cannot be resolved by the project team, but requires client or Project Board resolution.
- Priority
 - 0 irrelevant, since it does not impact the project in any way,
 - 1 low, whereby the unresolved issue will not impact current stage schedule,
 - 2 medium, whereby the issue will impact the stage schedule if not resolved within four weeks,
 - 3 stage stopper, whereby the issue must be resolved for work to continue on the current stage,
 - 4 project stopper, whereby the issue must be resolved by the end of the stage for work to continue on the project.
- Originator's Name
- Assigned To
- Response Date

- Status (Open or Closed)

Forward the issue to the appropriate team member, client, coordinator or Project Board member for assessment and recommended resolution.

Task .020 Assess Impact of Issue

Consider the potential impact of the issue on the project:

- what happens if the issue is not actioned?
- will it impact project scope?
- will it impact the quality of the final product?
- will it cause the project to go out of tolerance?
- will it impact resource usage?
- will it change the project benefits?
- will it increase project risk?

Determine how the issue might be resolved.

Update the Issue Log with the recommended "Resolution".

Task .030 Resolve Issue

Determine whether to accept the recommended resolution.

If the recommendation is accepted, and no additional effort is required, execute the resolution. Set Issue status to "Closed". Update Close Date.

If additional effort is required to execute the recommended resolution, create a Change Request. Set Issue status to "Closed".

If the recommendation is unacceptable, then determine next steps. Issue status remains "Open".

Step 07: Exception Situation

Description

Objective

To

- take corrective action when a project is off course,

in a way that

- minimizes impact to the project,

- gains agreement from all parts of the Project Organization,

so that

- the project can still be successfully completed.

Overview

The Project Initiation Report defines the project tolerances with respect to:

- cost,
- schedule,
- quality.

During the lifetime of a project it is possible that:

- a stage tolerance set by the Project Board is or will be exceeded,
- a major technical deviation is identified and recorded,
- an important dependency from another project is not available.

Their effect is that the current Stage Plan will not be met and so the Stage must be re-planned in the light of the new situation. This is done by preparing an Exception Report.

An Exception Report serves the essential purposes of any plan; it must contain all the information normally given in Stage plans since, after approval, it will replace the current Stage Plan. In addition it shows the effect on the project of exceptional situations; for this reason the exception plan includes information on the exception that has arisen, the options that have been examined and the action that it is proposed to take.

In addition to the information contained in the Stage Plan, an Exception Report contains the following:

- an explanation of why a given situation is an exception and the circumstances that led to the situation,
- a prediction of the schedule, cost, schedule, functional, quality and technical impact if no action is taken,
- the recommended recovery action (changes to scope, organization, budget, timescale, etc),
- the consequences of this corrective action on both the Stage Plan and the Project Plan,
- a recommendation.

The Exception Report is prepared by the Stage Manager and submitted to the Project Board at a Mid Stage Assessment (MSA). Consideration should be given

to both the project objective statement and the original Control Factors when considering recovery actions. If approved it becomes the effective plan for the remainder of the stage.

Step 07: Exception Situation

Task .010 Analyze Cause of Exception Situation

Confirm which component of the project is out of tolerance. Ensure that the control measuring the tolerance is functioning correctly.

Analyze the causes of the Exception Situation. These may include:

- resource utilization and availability,
- resource productivity and performance,
- external factors,
- under estimating,
- scope creep,
- quality issues requiring the rework of products.

Assess the impact on the project of doing nothing, and continuing with the original plan, with respect to:

- stage and project schedule,
- stage and project cost,
- scope,
- quality of development products,
- inter-project dependencies, both business and technical projects.

Task .020 Create Exception Plan

Review, from the Project Initiation Report, the Project Objective Statement, Measures of Project Success and the Control Factors. They will help to focus on identifying the most effective changes.

Consider each aspect of the project, identify appropriate changes and define their probable impact.

Dimension of Scope

- functional,
- organizational,

- data,
- performance requirements,
- implementation environment,
- development products.

Plan

- identify new tasks and products,
- modify original tasks and products,
- remove tasks and products,
- review resourcing,
- review workflow and task dependencies,
- re-estimate.

Organization

- review the effectiveness of the Project Board, Key Stakeholders, and Project Coordinators.

Schedule

- Recreate the stage and project plans.

Cost

- Recreate the project budget.

Business Case

- Quantify the impact of the proposed changes on each benefit, and the on the time to break even.

Risk

- Conduct a risk analysis.
- Identify new project risks and appropriate countermeasures.

If there is a single course of action, prepare the Exception Situation Report which summarizes:

- the causes and impact of the Exception Situation,
- recommends recovery actions,
- assesses the impact of the recovery actions,

- creates an Exception Plan which replaces the original stage and project plan.

If it is not clear what option should be taken, prepare an analysis of the options for the Project Board together with an outline Exception Report for each option.

Task .030 Prepare for Exception Assessment

Arrange a project assessment meeting of the Project Board to decide what course of action to take on the project.

Prepare an agenda and any presentation material that will be required to present the Exception Report to the Project Board in order for them to make a decision.

Task .040 Conduct Exception Assessment

Conduct the Project Assessment meeting. The Project Board should make a decision on how to proceed with the project, that the Stage Manager and Project Team can follow.

Task .050 Follow-up Exception Assessment

Record the decision made by the Project Board and take the appropriate action.

In most cases, this will be a series of additional project activities that are required to address the causes of the Exception Situation.

Execution of the Exception Plan may require invoking the Change Management process.

Step 08: Stage End Assessment

Description

Objective

To

- document the results of the current stage and prepare for the next stage and have the results reviewed by management,

in a way that

- provides a summary of the work carried out in the stage,
- identifies the tasks necessary to carry out the next stage of the project,
- develops a schedule for the next stage of the project,
- provides a comprehensive package of information from which a decision can be made,
- gains agreement on any revisions to the scope of project,

- gains agreement on any revisions to the overall approach and schedule for the project,
- gains agreement on any revisions to the Business Case for the project,
- gains agreement on any revisions to the Project Organization,
- gains commitment to making the necessary resources available for the project,
- gains agreement to the approach and schedule for the next stage of the project,
- gains agreement to any changes to the control procedures defined for the project,
- provides a record of the project and stage plans for use in managing and controlling the project if it gets authorization to proceed,
- confirms that the stage is complete,

so that

- a decision can be made as to whether to commit to and authorize the project to proceed.

Overview

An Stage End Assessment should be held at the end of every stage in the project. The Stage Manager and Project Team report their progress and recommendations to the Project Board to gain the Board's approval to either to proceed with the next stage, or to confirm that project has been satisfactorily completed. This assessment reviews the overall progress of the project and the plan for continuing the project.

In the same way that a detailed schedule for the next stage of the project is developed in Project Initiation, a detailed schedule for the next stage of the project is developed in every other stage, except the last.

The overall project schedule provides an overview of the activities in each stage. These activities need to be further defined for the next stage to the point where all necessary tasks have been identified. This should use the same approach as for developing the overall project schedule. That is, using a proven process, or developing the process if one does not exist.

Once this has been done it is necessary to estimate the resources required for the next stage. This should cover all personnel resources required, both full and part time, and other types of resource such as office space and equipment. A time line and cost estimate for the stage can then be developed.

The work carried out in the stage is collated into a consistent document that contains the work completed to date, plans for the Project as a whole, and plans for the next project stage.

The revised Project Plan consists of an updated version of:

- Project Scope
- Overall Project Schedule
- Overall Budget for the Project.
- Project Organization
- Business Case for the project
- Standards and Control Procedures to be used on the project

The Plan for the next stage consists of:

- Stage Schedule
- Quality Review standards for next stage products
- Control Tolerances for the next stage
- Budget for the next stage.

Developing these plans will be an iterative process and may begin early during the current stage.

A brief Stage End Report should also be produced which summarizes the work carried out during the stage and contains recommendations to the Project Board.

By agreeing plans for the next stage, the Project Board are committing to the provision of funding and other resources, and understanding and accepting the assumptions, pre-requisites and risks. They must ensure that appropriate Progress, Quality and Change Control procedures are being administered effectively.

This approval also marks the formal delegation of responsibility to the next Stage Manager for the achievement of stage products, within the time and budget, subject to the agreed tolerance levels.

Task .010 Close Stage Administration

Ensure that all project management and development products produced in the current stage are correctly filed.

Task .020 Determine Next Stage Activities

Based upon the project and stage objective, scope, constraints and assumptions, tune the stage work breakdown structure to:

- Add new steps and/or tasks,
- Remove unnecessary steps and/or tasks,
- Merge steps and/or tasks,

The project plan identified the probable steps within the stage. Now is the opportunity to reassess the steps and their associated objectives and products. Removing steps and tasks may increase project risk. Document these risks and identify proposed countermeasures, which may include additional quality assurance tasks.

Determine the products to be produced by each step. Start at the end of the stage with the final deliverable, and work forwards to the beginning. Describe the objective, outline and content of each product. Validate the final product against the project and stage objective.

Within each step, identify the tasks or activities required to produce the step products. A task will have the following characteristics:

- Reference
- Name
- Description
- Input
- Output or product
- Technique (optional)
- Tool (optional)
- Role / responsibility assignment
- Resource / responsibility assignment
- Effort estimate

In this task define the Task Reference, Name, Description, Product, Techniques and Tools.

Record all assumptions and issues identified.

Task .030 Determine Activity Dependencies

Chart the sequence of stages and steps to reflect the intrinsic and architectural dependencies inherent in the project.

An output or product of one task will usually be the input to another, and this will be the primary driver in determining the task dependencies and workflow.

Determine whether the successor task references (throughput) or updates (entry requirement) the input product.

Some inputs may be sourced from outside the project. Identify these External Inputs (e.g., Long Range System Plan, Standards, Project Initiation report of another project, etc.).

Review the dependencies determined by the task inputs and outputs. Review the dependency types between the tasks. Tasks are not necessarily finish-start, but may be in parallel or phased. Where appropriate, define lags (both positive and negative) between tasks. Remove any step dependencies. It is recommended that the dependencies be kept simple and reduced to a minimum, otherwise the schedule will be very difficult to execute and will probably be abandoned.

Ensure that all dependencies with other projects are identified. Examine other Project Initiation Reports to assess inter-project dependencies.

Record all assumptions and issues identified.

Task .040 Estimate Effort

Stage schedule estimates will be determined as effort time (or work). Determine the total effort per task. Remember to include peer review and revision time if such activities are not identified as specific tasks. It is recommended that you estimate in units of an hour. Avoid estimating tasks to less than one hour. It is advisable to estimate in units of 4 hours. No task should be longer than 80 hours.

By combining small tasks and including a detailed description of the task it will be possible to simplify the schedule merely by reducing the number of tasks in the Gantt.

The task effort estimates will be apportioned to individual roles and resources in the next task.

Record all assumptions supporting the estimate in the task description. This is very important because it will enable you to recreate and substantiate the estimate. It will also ensure that you have thoroughly throughout what is to be done, and that it is communicated clearly to the Team. Estimating takes time, but it will validate the tasks, products, techniques and assumptions.

Aggregate the task estimates and compare against the original top-down step and stage estimates. If the detailed estimate is substantially different from the original top-down estimate it may be necessary to refer to the Project Board and consider revising both the project and stage plans.

Task .050 Allocate Resources

Assign roles and their associated responsibility to each task. In order to avoid overwhelming the plan with complexity focus on the "produce", "consult" and "review" responsibilities. The "approve" responsibility will generally apply only to the Project Board. The responsibilities are defined as follows:

- Produce: to create the product of the task. Usually applies to Project Team Members like Business Analysts, Systems Analysts and Programmers. The schedule will be simpler to balance if only a single role is assigned per task.
- Consult: provide information required to produce the task. Usually applies Coordinators and Key Resources.

- Review: review the product for correctness, accuracy and completeness. Usually applies Coordinators and Key Resources.
- Approve: official signoff. Usually applies to the Project Board.

Assign resources to the roles and responsibilities.

Apportion the total task effort estimate to the resources. As a tip, the schedule will be much easier to balance if the task effort estimate is apportioned entirely to the a single "produce" resource. Therefore this estimate should include time for the other "consult" and "review" resources, e.g., Client review, DBA review. Although this is a simplification, it is still applicable if the non-project team costs are excluded from the plan, since the estimates are primarily for the Project Team. The "consult", "review" and "approve" resources still need to be assigned to tasks, albeit at zero work, in order for them to be included in the schedule.

Define by task the resources availability (unit). The scheduler will calculate task duration as effort / unit.

Task .060 Prepare Next Stage Schedule

Develop an initial schedule of project activities.

Determine the proposed stage start date and use the scheduler to calculate the step and task start and end dates. Validate these dates against the project constraints.

Review the project objective, constraints and control factors before attempting to balance the plan. Deadline, resource utilization and costs can be adjusted as follows:

- Modify dependencies,
- Modify dependency type (finish-start, lag, etc.),
- Modify tasks and therefore the effort estimate (avoid arbitrarily reducing estimates),
- Assign more resources (task duration will theoretically be reduced if more resources are applied to the task),
- Reassign more proficient resources,
- Provide productivity enhancing tools,
- Train and coach team members,
- Motivate team members,
- Increase resource availability,

Modify task descriptions and assumptions to record all the adjustments to the plan. Failure to do this will result in a mismatch between the original plan and the current schedule, and reduce the probability of project success.

Task .070 Prepare Next Stage Budget

Determine staff costs at the task level. This is a function of the resource work and chargeable rate. The Process Manager will supply standard hourly rates for both Internal Staff and External Contractors.

Determine non-staff costs for the stage by category. The categories are:

- Hardware & Network
- Software
- Project Training, training the project team to execute the project
- Installation Training, training the clients, operations, etc. to use the application
- Miscellaneous, includes supplies, copying of training materials, accommodation, subsistence, travel, or other costs which cannot be classified above.

Task .080 Baseline Next Stage Schedule

Once a satisfactory balanced stage schedule and budget has been achieved, baseline it. This will retain a record of the original start and end dates, work and duration estimates, and staffing costs

Actual progress will be monitored against this baseline.

Task .090 Update Project Schedule

Update the overall Project Schedule to reflect the details of the Next Stage Schedule.

Task .0100 Review Project Budget

Review the overall Project Budget, and make changes based on the latest Project Schedule

Task .0110 Review Business Case

Update the Business Case to reflect any changes in Costs, Benefits and Risks for the project.

Task .0120 Review Project Organization

Review the resource requirements from the Next Stage Schedule and update the Project Organization accordingly.

Task .0130 Review Project Scope

Review the latest statement of the Project Scope and ensure that it still accurately reflects the current status and plans for the project.

If the Project Scope is subject to Change Control, it should be up to date.

Task .0140 Compile Stage End Assessment Report

Collate all the elements of the project and next stage plans into a single document for review by the Project Board.

Summarize the achievements of the preceding stage, highlighting any issues concerning quality, cost, resource utilization, schedule, etc.

Verify that the project objective, scope, approach, products, organization, control factors, cost justification and risk are still valid. Highlight any changes.

Task .0150 Prepare Stage End Assessment

Decide what decisions the Project Board must make. These will cover issues that have arisen during the previous stage, and the decision on how to proceed with the project.

Determine the recommendations to be made to the Project Board concerning those decisions. If the development Stage Manager and the Client Co-coordinator disagree, then record both with supporting arguments.

Determine the information the Project Board needs to make the decisions.

Determine the best way to provide that information to the Project Board.

Prepare advance material for the Project Board.

Arrange and schedule a Project Board meeting and send out the advance material.

Prepare a structured agenda for the Project Board meeting.

Prepare a brief report covering the work carried out during the stage.

Task .0160 Conduct Stage End Assessment

Follow the prepared agenda and present the results of the stage to the Project Board.

Make a recommendation to the Project Board and ensure the Project Board makes a decision.

Task .0170 Follow-up Stage End Assessment

Update the Project and Stage Plans based on the decisions made by the Project Board.

Create a Stage End Approval Report and obtain Project Board signatories. Record any qualifications.

Project Closure

Objective

To

- formally close the project,

in a way that

- establishes mechanisms for the continued development or improvement of the final product of the project,
- improves the standard process for this type of project,
- updates the estimating model for this type of project,

so that

- the project resources can be re-deployed.

Overview

All good things must come to an end. Projects are designed to end at some point, that is the nature of project work. To gain maximum benefit from a project, the project should go through a formal close down.

There may be some outstanding work that needs to be carried out on the products of the project. This work should either be canceled, or mechanisms, such as a maintenance program, or additional projects, should be established to complete the work.

The project will have been using several lists and tracking mechanisms, such as the change request log and the issues log. These need to be formally closed.

The members of the Project Organization will have learnt how to carry out this type of project better in the future, and will have a better idea of how long the various activities on this type of project will take to do. These learnings should be captured for future use.

There will be a lot of information generated during a project, and this will have been stored with varying degrees of formality by the members of the Project Organization. This information needs to be formally filed away for possible future use.

Step 01: Final Product Evaluation **Description**

Objective

To

- determine the overall quality of the final product and to implement a mechanism for improving or maintaining that quality,

in a way that

- evaluates the product against the original objectives identifies outages in the final product determines how to address any outages,

so that

- the overall project objectives can be met.

Overview

By this time in the project, all project work should have been completed, and the products of the project should have been accepted by the customers. It is possible however, that the final products do not fully meet the original objectives and requirements.

Before the project is completely finished, any outages in the products should be identified and evaluated. If it is decided that the outages need to be fixed, it will be necessary to set up a mechanism to carry this out. This may be by a new project, or a maintenance program.

If the product fully meets the original objectives and requirements, it is still necessary to consider how to maintain the product.

Task .010 Prepare Product Evaluation

Determine what form the final evaluation of the product should take. It could be:

- a meeting
- a quality review
- a questionnaire

Make sure that the evaluation includes an evaluation against the Business Success Criteria that were defined during the Project Initiation Stage. However, it is also important to evaluate the overall quality of the final product in respect of its ability to meet current requirements.

Prepare and distribute material as appropriate.

Task .020 Conduct Product Evaluation

Carry out the evaluation in the chosen way.

Determine if the project has been successful in relation to the original Business Success Criteria.

Determine if the product does meet all requirements. If the product does not meet requirements, identify the shortcomings and record them.

Determine if any of the shortcomings with the final product need to be addressed. If there are any items that need action, decide on the best way of addressing the items. Options include:

- do not close the project
- define a follow-on project
- initiate a maintenance process

Task .030 Initiate Maintenance Process

If there is a need for on-going maintenance of the final product, a maintenance process should be initiated.

If the organization does not have a maintenance process, this should be established. This should be a formal defined process, that involves business and technical staff in the identification, approval for work, carrying out the work and quality control of work.

There may be some maintenance work already identified, and this work should go through the defined maintenance process.

Step 02: Project Completion
Description

Objective

To

- complete all outstanding project work,

in a way that

- reviews outstanding project items,
- resolves outstanding project items,

so that

- the project can be formally closed.

Overview

The project will have been using a number of control procedures that produce logs of change requests and issues.

The logs need to be reviewed for a last time, To make sure that all items have been closed. If any items have not been closed, they should be evaluated to see if they still have a bearing on the final product. The items that are still open should then be closed or resolved. As a last resort, if there is a follow on project or maintenance program, the outstanding items should be passed on to the person responsible for the subsequent work.

It is possible that some activities were not completed on the project. The final commitment plan should be reviewed and any items that are still not complete should be identified. Any uncompleted activities should be treated in the same way as unresolved change requests or issues.

The best way to carry out this work is to have a final meeting of the project team and any other members of the Project Organization that are necessary to make decisions on the outstanding items.

Step 02: Project Completion

Task .010 Close Outstanding Project Work

Review the Change Control log and close any outstanding items.

Review the Issue Log and close any outstanding items.

Review the quality control log and close any outstanding items from completed quality reviews.

The project logs may be closed by transferring the items to a follow on project or to the maintenance process.

Produce personal assessments for all project team members.

Close and store project files. This may require forwarding some documents to other parts of the company (e.g. contracts correspondence).

Prepare a report on the final actions taken, for approval in the Project Closure Meeting.

Task .020 Prepare for Project Closure Meeting

Determine what needs to be accomplished in the Project Closure Meeting and decide who should attend.

Arrange and schedule the Project Closure Meeting.

Produce and circulate pre-meeting material (meeting notification, any required reading).

Produce outline project closure report for review at the closure meeting.

Task .030 Conduct Project Closure Meeting

Carry out the Project Closure Meeting in the agreed way.

Gain approval on closure actions.

Task .040 Follow Up Project Closure Meeting

Revise the closure actions if they were not approved in the Project Closure Meeting.

Step 03: Process Improvement Description

Objective

To

- review and update the process used by the project,

in a way that

- involves both technical and business staff,
- covers the project process, techniques and organization,
- identifies things that worked well,
- identifies things that didn't work,
- identifies things were not necessary,
- identifies additional things that were necessary,
- improves the estimating model for the process,

so that

- the organization can learn from this project and make similar future projects more successful.

Overview

This is the final step in any quality process. This step evaluates the process itself and identifies any learnings from the project. If these learnings are likely to apply to future projects of the same type, the project process is updated to reflect what has been learned.

Task .010 Prepare End of Project Review

Determine what form the final review of the project should take. It could be:

- a meeting
- a facilitated workshop
- a questionnaire

The review should involve all parts of the Project Organization. It may also involve other staff and customers of, and suppliers to, the project.

Prepare and distribute material as appropriate to the people involved in the review.

Task .020 Conduct End of Project Review

Carry out the review in the chosen way.

Record recommended changes to the process and estimating model.

Task .030 Update Process Metrics

Review the recommended changes to the estimating model.

Assess each change and decide if it is likely to apply to future projects of this type. Change the estimating model based on these decisions.

Task .040 Implement Process Improvement

Review the recommended changes to the standard process used on the project. Assess each change and decide if it is likely to apply to future projects of this type. Change the standard process based on these decisions.