Project Management Methodology

East Carolina University
# Table of Contents

ITCS - CENTRAL PROJECT OFFICE (CPO): WELCOME ...................................................................................................5
CPO: PM STANDARDS AND RESOURCES ..................................................................................................................6
FRAMEWORK DOCUMENT ORGANIZATION .............................................................................................................6
   SECTION ONE: PROJECT MANAGEMENT LIFECYCLE (PHASES) ...........................................................................6
   SECTION TWO: PROJECT MANAGEMENT SKILL AREAS ...................................................................................6
PROJECT ..................................................................................................................................................................6
PROJECT MANAGER ................................................................................................................................................6
MANAGEMENT LIFECYCLES ....................................................................................................................................6
DOCUMENT RESOURCES .........................................................................................................................................7
PROJECT PHASE GATES ...........................................................................................................................................7
STAKEHOLDER .............................................................................................................................................................8
SPONSOR ................................................................................................................................................................8
DOCUMENT TEMPLATES .........................................................................................................................................8
PROJECT DEFINITION ................................................................................................................................................8
   PROJECT SIZE ....................................................................................................................................................9
   LARGE PROJECTS ...............................................................................................................................................9
   MEDIUM PROJECTS ...........................................................................................................................................9
   SMALL PROJECTS ...............................................................................................................................................9
PROJECT PRIORITY LEVELS ...................................................................................................................................10
PROJECT APPROVAL PROCESS ................................................................................................................................11
PROJECT WORKFLOWS ........................................................................................................................................ 12
CPO RESOURCES ......................................................................................................................................................15
PROJECT MANAGEMENT PHASES ................................................................................................................................16
   PROJECT MANAGEMENT PHASE: INITIATION ........................................................................................................ 16
      PROJECT DOCUMENT RESOURCES ................................................................................................................ 16
      PROJECT INITIATION ......................................................................................................................................16
      PROJECT DOCUMENT TEMPLATES ................................................................................................................ 16
      PROJECT PHASE GATE REVIEW .......................................................................................................................16
   PROJECT MANAGEMENT PHASE: PLAN ............................................................................................................. 16
      PROJECT DOCUMENT RESOURCES ................................................................................................................ 16
      PROJECT CHARTER ......................................................................................................................................17
      PROJECT MANAGEMENT PLAN ...................................................................................................................17
TRACK CHANGE REQUESTS ........................................................................................................................................ 32
INTEGRATED CHANGE CONTROL .......................................................................................................................... 33
CHANGE IMPACT .................................................................................................................................................. 33
OPERATIONAL CHANGE MANAGEMENT ........................................................................................................... 33
COST MANAGEMENT ......................................................................................................................................... 33
RISK MANAGEMENT ......................................................................................................................................... 34
HIGH-LEVEL PROJECT RISK ............................................................................................................................... 34
IDENTIFY PROJECT RISK ................................................................................................................................... 35
ASSESS RISK PROBABILITIES AND IMPACTS ..................................................................................................... 35
PRIORITIZE RISKS ........................................................................................................................................... 36
PLAN RISK RESPONSES ................................................................................................................................. 36
NEGATIVE RISK STRATEGIES .......................................................................................................................... 36
POSITIVE RISK STRATEGIES (OPPORTUNITIES) ............................................................................................... 36
MANAGE RISKS ............................................................................................................................................. 36
LESSONS LEARNED ..................................................................................................................................... 37
LESSONS LEARNED APPROACH .................................................................................................................... 37
LESSONS LEARNED FROM A PROJECT ........................................................................................................... 37
ITCS - CENTRAL PROJECT OFFICE (CPO): WELCOME

ITCS is committed to supporting and furthering project management (PM) to better ensure the quality of work and service required of any East Carolina University endeavor.

To improve project outcomes, mitigate risk, and improve service consistency, the Information Technology and Computing Services - Central Project Office ("ITCS - CPO") developed this framework resource document for ITCS project managers, and those individuals who may not have the title of project manager, but find themselves managing a project or projects.

The CPO is dedicated to “continuous improvement” as such; the framework document and other resources are updated regularly to reflect standards within both information technology and project management fields.

The CPO developed the following materials using a combination of experience gained by managing projects at East Carolina University and other organizations and project management accepted standards, such as the Project Management Institute ("PMI") and their Project Management Body of Knowledge ("PMBOK") 5th edition.

The CPO project management methodology explains the project management process areas and their relationship to the project management lifecycle. Additionally, the definition of a project, the project management life cycle, and project management resources are defined.

The underlying principle of project management is that you plan for your project before execution, and that you monitor all work to ensure alignment with the approved university goals. The CPO serves all of ITCS and seeks to provide the best resources possible to support your project.
CPO: PM STANDARDS AND RESOURCES

A fundamental CPO goal is to improve the management of ECU’s Information Technology and Computing Services (“IT”) projects and to ensure successful project outcomes. Based on the concept of “progressive elaboration,” the CPO’s project management (“PM”) process allows the project manager to incorporate more details as the project evolves and information is determined. In this way, as new information is available, the project management plan and management approaches can adapt to fit.

The CPO project management process is achieved with a combination of standardized templates and resources customized for ECU’s IT projects. Projects of any size benefit from use of several key document resources, specifically: Project Initiation, Project Planning, and Project Transition and Close. The depth of detail and use of document templates will vary depending on the project’s classification.

FRAMEWORK DOCUMENT ORGANIZATION

The methodology is organized with two main sections, each with interconnected subsections. All topics are included in the Table of Contents for easy reference.

SECTION ONE: PROJECT MANAGEMENT LIFECYCLE (PHASES)

There are four project management phases, and within each, the framework document describes the phase itself, the required document resources, the document templates, and the phase gate checkpoints.

SECTION TWO: PROJECT MANAGEMENT SKILL AREAS

Throughout all projects, the project manager must apply interpersonal, organizational, and leadership skills to guide the team and ensure that work aligns with stated goals.

The project management skill areas of Change Management, Communication Management, Issue Management, Scope and Time Management, Cost Management, and Risk Management, are described within the framework to provide project managers a context for the associated document templates.

PROJECT

A project is a temporary endeavor undertaken to create a unique product, service or result. The temporary nature of projects indicates a definite beginning and end. The end is reached when the project’s objectives have been achieved or when the project is terminated because its objectives will not or cannot be met, or when the need for the project no longer exists.

PROJECT MANAGER

A project manager is the person responsible for managing all aspects of a project to ensure the goals and deliverables are met. Often, the project manager represents the interests of the project client (or Sponsor) within the project to guide the work towards project goals. The project manager is given the authority by the Sponsors to guide project work, maintain documentation, track work, and oversee the project team.

MANAGEMENT LIFECYCLES

Every project has a lifecycle, and project management for that project has its own lifecycle. The CPO methodology reflects the project management phases of Initiation, Planning, Execution, Transition and Close.
**Figure 1: Project Management Lifecycle**

For simplicity’s, the project management lifecycle is shown, start-to-finish linear approach. This representation is used to emphasize the fact that the work of one phase will directly impact the work in the following phase.

But in practice, both the entire project management lifecycle and the phases within it are iterative. Project Managers may be in the Execution Phase, but due to stakeholder or budget changes, or other factors, must return to the Planning or even the Initiation phase. One of the responsibilities of the project manager is to know which phase the project is in, how close the project is to completing that phase, and when a phase needs to be repeated or regressed.

The CPO document and template resources provide a valuable tool for project managers as they oversee the launch, work within, and closure of each project management phase of their project.

**DOCUMENT RESOURCES**

The CPO provides project management document resources that align with the project management lifecycle and the phase gates. The project management document resources are: *Project Proposal (Business Case)* (Initiation Phase), *Project Charter* (Planning Phase), *Project Management Plan* (Planning Phase), *Change Control* (Execution Phase (Monitor and Control)), and *Project Close* (Transition and Close Phase). Within the lifecycle, as the document resources are completed they are submitted to the project stakeholders for review and approval. The required review of the document resources provides the formal reviews within the project.

**PROJECT PHASE GATES**

The project Phase Gate process provides project sponsors, stakeholders and executive management oversight on cost, schedule and scope as the project proceeds.

- There are four reviews within the project management lifecycle
- Each phase gate is tied to a project management document resource
- Each phase gate requires a project authority’s approval to complete
- Phase Gate approval is provided by the project authority appropriate to an individual project; approval can come from:
  - Stakeholder(s)
  - Sponsor(s)
  - Executive Management
  - Steering Committee

A phase gate review can be repeated if a phase is repeated:
Figure 2: Phase Gates Reviews

The document resources and associated planning activities are most effective when stakeholders are actively involved in gathering project documentation. It is also recommended that the documents be treated as “living” documents meaning that revisions and reviews occur throughout your project to ensure that project work aligns with the plan, on budget, schedule, and scope.

Goals and targets are more likely reached when planned and monitored against the actual work of the project. At ECU, stakeholders and sponsors are often the same group or person.

STAKEHOLDER
Stakeholders are persons or organizations (e.g. Clients, Sponsors, and the performing organization) who are actively involved in the project or whose interests may be positively or negatively affected by the performance or completion of the project. They may exert influence over the project, deliverables or team members. (Project Management Body of Knowledge (“PMBOK”) 5th edition) project.

SPONSOR
Sponsor is the person or group that provides (financial) resources for the project. The Sponsor is the champion and spokesperson to gather support throughout the organization. They play a significant role in the scope and the charter. The Sponsor is the escalation point for the project manager. (Project Management Body of Knowledge (“PMBOK”) 5th edition)

DOCUMENT TEMPLATES
The document templates are available to further support and expand upon information captured from the project team.

The files can be found at the Central Project Office SharePoint site, specifically under PM Document Templates. The templates are organized by project phase: (for example, the Risk/Issue Register document, would be stored within the Planning Phase folder).

Note: an active PirateID (university user name) and password is required for access to the templates that are listed in this framework located within the CPO SharePoint site. Templates are provided as document resource and document Microsoft Word (.docx) and Microsoft Excel (.xlsx) files.

PROJECT DEFINITION
Our goal is to produce a culture of project management in ITCS to help us improve our ability to plan and execute on our commitments. However, we are also sensitive to the need to avoid adding unnecessary overhead/bureaucracy to our environment, so we need to clarify what constitutes a “project” necessitating the
additional structure project management inherently requires. The following establishes that initial definition and we will adjust this over time as we gain more experience. The intent is to focus on large/complex/high impact projects and avoid maintenance activities.

Projects, as defined earlier in this document, are endeavors that are temporary in nature and undertaken to create something. Clearly this is a broad definition and one designed to give the person/persons managing their work ample latitude to define how much structure to apply to a particular block of work.

Operations is an ongoing organizational function that performs activities to produce products or supply services. For example, production operations, manufacturing, IT service management, and accounting operations. Furthermore, operations are permanent endeavors that produce repetitive outputs. Resources are assigned to do the same tasks according to operating procedures and policy.

Yet every organization that undertakes formal project management needs to answer the fundamental question of “what is the threshold that an activity must cross before it becomes a “formal project” and what actions must be undertaken at that time?” The answer for Information Technology and Computing Services (ITCS) at the time of this writing is as follows:

**PROJECT SIZE**

**LARGE PROJECTS**

Projects => $250,000 are prioritized and approved by the CIO and Technology Steering Committee (TSC) – as needed

- The *required* action is to create a project proposal (business case) document and manage the project according to the methodology advocated in this framework.
- The option to engage the Central Project Office in your project planning, management and execution is always open and welcomed.

**MEDIUM PROJECTS**

Projects => $25,001 and <=$249,000 and/or =>161 staff-hours are approved by ITCS Direct Reports w/o needing CIO approval.

- The *required* action is to create a project proposal (business case) document and manage the project according to the methodology advocated in this framework.
- The option to engage the Central Project Office in your project planning, management and execution is always open and welcomed.

**SMALL PROJECTS**

Projects <= $25,000 and/or <= 160 staff-hours are prioritized by ITCS Direct Reports w/o needing CIO approval.

- The *required* action is to create a project proposal (business case) document and manage the project according to the methodology advocated in this framework.
- The option to engage the Central Project Office in your project planning, management and execution is always open and welcomed.
PROJECT PRIORITY LEVELS

○ **High** (High Complexity/Risk: Scoring Scale: 351-500)
  ○ Complex schedule with many dependencies
  ○ High total cost
  ○ New to ECU technology, techniques, or processes
  ○ Extensive impact across campuses
  ○ Involves critical data such as SSN, HIPAA, PCI, FERPA protected data
  ○ Campus-Wide
  ○ Affects strategic direction of ECU
  ○ System-wide and/or external impact

○ **Medium** (Medium Complexity/Risk: Scoring Scale: 176-350)
  ○ Schedule has some dependencies
  ○ Intermediate total cost
  ○ Evolving ECU technology techniques or processes
  ○ Involves a large amount of sensitive data but no critical data such as SSNs and HIPAA protected data
  ○ Impacts multiple campuses
  ○ Involves staff from more than one campus
  ○ Clear effect on one or more business processes and goals

○ **Low** (Low Complexity/Risk: Scoring Scale: 0-175)
  ○ Simple schedule with few to no dependencies
  ○ Low total cost
  ○ Familiar to ECU technology techniques or processes
  ○ Involves no or limited sensitive data elements
  ○ Impacts a department or campus
  ○ Staffing involves a single campus
  ○ Incremental effect on business processes and goals
PROJECT APPROVAL PROCESS

Figure 3: Project Approval Flow
Figure 4: Workflow for ‘SMALL’ Projects

NOTES
1. Project status should be updated Bi-Weekly
2. ** Required Project Artifact
Figure 5: Workflow for ‘MEDIUM/LARGE’ Projects

Which (Enterprise or Operational) process do I need to use to initiate/manage my project?

The terms “Enterprise” and “Operational” have been used to differentiate between projects of high complexity (“Enterprise”) and less complexity – which are often managed by internal teams (“Operational”). The framework currently focuses on enterprise types to ensure full information and resources are available.

The CPO believes based on this classification, determines the best process fit for managing a project. For a medium/large project, the enterprise process is likely the most appropriate. For a small project, the project manager and team could choose to use the operational process. It is highly recommended the project close report is completed so that all projects have a beginning (project initiation) and an end (project transition and close.)
<table>
<thead>
<tr>
<th><strong>Enterprise</strong></th>
<th><strong>Operational</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Project Proposal (Business Case)</td>
<td>✓ Project Proposal (Business Case)</td>
</tr>
<tr>
<td>✓ Project Charter</td>
<td>✓ Project Charter</td>
</tr>
<tr>
<td>✓ Project Management Plan</td>
<td>Project Management Plan</td>
</tr>
<tr>
<td>o Project Schedule</td>
<td>o Project Schedule</td>
</tr>
<tr>
<td>o Cost Management Plan</td>
<td>o Cost Management Plan</td>
</tr>
<tr>
<td>o Project Roles &amp; Responsibilities</td>
<td>o Project Roles &amp; Responsibilities</td>
</tr>
<tr>
<td>o Issue Management Plan</td>
<td>o Issue Management Plan</td>
</tr>
<tr>
<td>▪ Issue Log</td>
<td>▪ Issue Log</td>
</tr>
<tr>
<td>o Risk Management Plan</td>
<td>o Risk Management Plan</td>
</tr>
<tr>
<td>▪ Risk Log</td>
<td>▪ Risk Log</td>
</tr>
<tr>
<td>o Procurement Management Plan</td>
<td>o Procurement Management Plan</td>
</tr>
<tr>
<td>o Resource Management Plan</td>
<td>o Resource Management Plan</td>
</tr>
<tr>
<td>o Communication Management Plan</td>
<td>o Communication Management Plan</td>
</tr>
<tr>
<td>o Quality Management Plan</td>
<td>o Quality Management Plan</td>
</tr>
<tr>
<td>✓ User Acceptance Testing Plan</td>
<td>✓ User Acceptance Testing Plan</td>
</tr>
<tr>
<td>o Test and Acceptance Results</td>
<td>o Test and Acceptance Results</td>
</tr>
<tr>
<td>✓ Change Request Form</td>
<td>Change Request Form</td>
</tr>
<tr>
<td>✓ Change Control Log</td>
<td>Change Control Log</td>
</tr>
<tr>
<td>✓ Acceptance Form</td>
<td>Acceptance Form</td>
</tr>
<tr>
<td>✓ Project Closeout Report</td>
<td>✓ Project Closeout Report</td>
</tr>
</tbody>
</table>

*Figure 6: Recommended Templates*
CPO RESOURCES

The table below lists document resources and templates, and additional resources provided by the CPO to ensure you have the tools you need to reach a successful project completion.

<table>
<thead>
<tr>
<th>Gate I</th>
<th>Gate II</th>
<th>Gate III</th>
<th>Transition and Close</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Initiation</strong></td>
<td><strong>Planning</strong></td>
<td><strong>Execution</strong></td>
<td><strong>Close</strong></td>
</tr>
<tr>
<td>• Project Proposal (Business Case)</td>
<td>• Project Charter</td>
<td>• User Acceptance Testing Plan</td>
<td>• Lessons Learned</td>
</tr>
<tr>
<td>• Project Charter</td>
<td>• Project Management Plan</td>
<td>• Test and Acceptance Results</td>
<td>• Acceptance Form</td>
</tr>
<tr>
<td>• Cost Management Plan</td>
<td>• Project Roles &amp; Responsibilities Matrix</td>
<td>• Change Requests</td>
<td>• Project Closeout Report</td>
</tr>
<tr>
<td>• Issue Management Plan</td>
<td>• Issue Management Plan</td>
<td>Change Control Log</td>
<td>• Project Survey</td>
</tr>
<tr>
<td>• Risk Management Plan</td>
<td>• Risk Management Plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Procurement Management Plan</td>
<td>• Resource Management Plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Resource Management Plan</td>
<td>• Communication Management Plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Quality Management Plan</td>
<td>• Project Schedule</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Project Schedule</td>
<td>• Issues Log</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Issues Log</td>
<td>• Risks Log</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Risks Log</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Supplemental Resources</th>
<th>Document Template/Resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>• CPO: Project Management Framework</td>
<td>• CPO: Project Management Framework</td>
</tr>
<tr>
<td>• Statement of Work (SOW)</td>
<td>• Project Roles &amp; Responsibilities</td>
</tr>
<tr>
<td>• BRD/TRD Requirements Document</td>
<td></td>
</tr>
<tr>
<td>• Project Kickoff Meeting Minutes</td>
<td></td>
</tr>
<tr>
<td>• Project Roles &amp; Responsibilities</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gate I</th>
<th>Gate II</th>
<th>Gate III</th>
<th>Transition and Close</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Initiation</strong></td>
<td><strong>Planning</strong></td>
<td><strong>Execution</strong></td>
<td><strong>Close</strong></td>
</tr>
<tr>
<td>• Project Proposal (Business Case)</td>
<td>• Project Charter</td>
<td>• User Acceptance Testing Plan</td>
<td>• Lessons Learned</td>
</tr>
<tr>
<td>• Project Charter</td>
<td>• Project Management Plan</td>
<td>• Test and Acceptance Results</td>
<td>• Acceptance Form</td>
</tr>
<tr>
<td>• Cost Management Plan</td>
<td>• Project Roles &amp; Responsibilities Matrix</td>
<td>• Change Requests</td>
<td>• Project Closeout Report</td>
</tr>
<tr>
<td>• Issue Management Plan</td>
<td>• Issue Management Plan</td>
<td>Change Control Log</td>
<td>• Project Survey</td>
</tr>
<tr>
<td>• Risk Management Plan</td>
<td>• Risk Management Plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Procurement Management Plan</td>
<td>• Resource Management Plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Resource Management Plan</td>
<td>• Communication Management Plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Quality Management Plan</td>
<td>• Project Schedule</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Project Schedule</td>
<td>• Issues Log</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Issues Log</td>
<td>• Risks Log</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Risks Log</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Figure 7: CPO Resources**
PROJECT MANAGEMENT PHASES

PROJECT MANAGEMENT PHASE: INITIATION

Every project – of any size, scope, or budget – must have a documented project proposal (business case) that captures the need that the project’s results and deliverables should address. The project requestor, with guidance from the project manager, should have a written business case available before working on any project initiation activity or document.

PROJECT DOCUMENT RESOURCES

There are two document resources for the Initiation Phase: Project Proposal and Project Prioritization Scorecard. The project manager may need to work closely with the project requestor, sponsor(s), and others to guide the completion of the foundational document resources.

PROJECT INITIATION

The project proposal (business case) must be articulated and vetted before any other project documentation and incorporated into the project proposal document. The purpose of the project proposal document resource is to describe at a high-level the value and scope/deliverables of a project that is being presented for funding and scheduling consideration.

The project prioritization scorecard provides insight into the proposed projects alignment with ECU priorities and strategic direction.

A budget estimate is part of the project proposal to develop an approximation of the monetary resources needed to complete the project. In addition, the project proposal document outlines known vendor resources required to complete the project work. Vendor efforts are often required to complement internal resources or to provide products or services not available within the organization.

To complete the project proposal, the project requestor and/or sponsor are asked to provide project details needed by ITCS Executive Management to prioritize and fund projects.

PROJECT DOCUMENT TEMPLATES

There are no supplemental project document templates for the Initiation Phase. The project proposal document resource, with the project prioritization score and other key project details, serves as the primary document for this phase.

PROJECT PHASE GATE REVIEW

GATE # 1: After the project Initiation Phase is completed, it is reviewed and approved by the appropriate project authority (e.g., Stakeholder, Sponsor, or Executive Management).

PROJECT MANAGEMENT PHASE: PLAN

A foundational belief in professional project management is that you must PLAN before you ACT or DO. It is also recommended that the documents are treated as “living” documents meaning that revisions and reviews should occur throughout your project to make sure the work aligns with the plan, and vice-versa. Goals and targets are more likely reached when planned and monitored against the actual work of the project.

PROJECT DOCUMENT RESOURCES

The Planning Phase includes two primary document resources: project charter and project management plan. The CPO provides the project selection guide to help project managers determine if their project would be best
served by the Charter “Standard” or “Light.” Both versions of the charter are provided by the CPO. Your project management plan will incorporate many project management document templates, and the project manager will need to decide which documents are required for a project. The charter, uses all of the templates within the project management plan.

PROJECT CHARTER
The project charter is the official project approval document; without signoff of the charter, the project does not exist and resources should not be assigned to it. The charter builds upon information documented in the project proposal (business case). Additionally, the information within the charter informs the later project management plan document.

PROJECT MANAGEMENT PLAN
Project schedule milestones and work tasks are best identified through the creation of the project management plan. This project management document resource is core to all projects. The project management plan is used to execute, manage, monitor and control the project as the deliverables are developed, tested and accepted.

As part of developing the project management plan, the project team should collaborate with stakeholders and subject matter experts (SMEs) to add detail to the project requirements so that work can be broken down to a task level, which in turn, can set resource needs and the overall project schedule.

PROJECT DOCUMENT TEMPLATES
PROJECT BASELINE | PROJECT PORTFOLIO SOFTWARE (PPM)
After review and approval by the Sponsor and/or Executive Management, a project baseline is recorded. This includes using the baselines within your project plan.

The project baseline is used during all Integrated Change Control Requests and at project transition and close. The project management plan uses nine project management document templates to plan for the project management skill areas of communication, issues, scope and time, cost, change control, risk management, and lessons learned.

COST TRACKING | PROJECT PORTFOLIO SOFTWARE (PPM)
Cost tracking is a tool to plan and monitor the project budget and set the budget baseline. Updating the budget involves recording actual costs spent to date. The authorized budget can only be changed using the integrated change control process.

PROJECT SCHEDULE | PROJECT PORTFOLIO SOFTWARE (PPM)
Project schedule is a tool to plan and monitor at the minimum the planned start and finish date for each activity. As a component of the project management plan, the schedule is refined as resources are determined and dates are finalized. The finalized version of the schedule is the schedule baseline which can only be modified using the integrated change control process. Status reporting is often in the context of the project schedule. Tools like project portfolio software enhance the ability to react quickly to resource fluidity.

STAKEHOLDER MATRIX | PROJECT PORTFOLIO SOFTWARE (PPM)
A tool to identify all persons or organizations actively involved in the project, or to show interests potentially impacted by the project. The Stakeholder Matrix is essential in preparing the Communication Management Plan. It includes the major expectations, the project phase in which the stakeholder will be the most active and the potential influence of the stakeholder on the project.
COMMUNICATION MANAGEMENT PLAN | MICROSOFT WORD, SHAREPOINT
A tool to identify all Stakeholders, Sponsors and others involved in the project and clearly identify what, how and when you will communicate with them. The Issue Log tool is also used heavily in communications to raise and discuss issues that arise and to document their disposition. By raising and communicating issues broadly across all persons involved in the project, conflict that may arise from lack of communication is minimized.

RISK MANAGEMENT PLAN | MICROSOFT WORD, SHAREPOINT
A tool to identify and define a project risk (a potential event or condition that may occur), assess the level of the risk, and to document potential mitigation strategy. The risk management plan should be as complete as possible and may require additional information from the project team prior to the review process. Risks for the project are logged in the risk log.

RISK LOG | MICROSOFT EXCEL, SHAREPOINT
A tool to maintain a running log of project risks, comments, mitigation strategy and disposition. It may be used in conjunction with the risk management plan. When mitigation action is taken on a risk, it may impact other areas of the project management plan which should be updated as part of the process. Unidentified risks may arise over the lifecycle of the project and should be added to the risk log following the normal process.

PROJECT STATUS REPORT | PROJECT PORTFOLIO SOFTWARE (PPM)
The Project Status Report is a tool to communicate the progress of the project against the project schedule and cost baselines. Active issues and risks should also be discussed in the status report.

ISSUE MANAGEMENT | MICROSOFT WORD, SHAREPOINT
A tool for identifying, tracking, and resolving an issue that is a roadblock or has the potential to be a road block to project success. Project issues can be raised by anyone involved with the project, but the project manager has the responsibility to manage the issue to resolution. Project status reports should include a review of project issues.

ISSUE LOG | PROJECT PORTFOLIO SOFTWARE (PPM)
The Issue Log is a tool to maintain a running log of issues, comments and disposition.

PROJECT PHASE GATE
GATE # 2: The completed project charter is reviewed and approved by the appropriate project authority (e.g. Sponsor and/or Executive Management) to officially launch the project. Without a signed project charter, the project is not approved.

With a complete project management plan, including the appropriate document template resources, the project manager and project team then compare the proposal, charter, and project management plan to identify any variances in deliverables, goals, schedule, Sponsors, etc. After the project management plan and supporting templates have been initially completed they are reviewed and compared to/with the project proposal and project charter. This is an important point in time in the project.

The project management plan should be presented to the appropriate project authority for approval before moving to the Execution Phase.

PROJECT MANAGEMENT PHASE: EXECUTION (MONITOR AND CONTROL)
The execution phase includes performing the activities to accomplish the project requirements, creating project deliverables, managing the project team and all other activities for a successful project outcome.
PROJECT DOCUMENT RESOURCES
The execution phase relies upon the project management plan, created in the planning phase, to guide the project work. The project management plan is used by the project team to execute work defined in the project to achieve the project goals on behalf of the Sponsor.

PROJECT DOCUMENT TEMPLATES
There are supplemental project document templates for the execution phase. The project charter and project management plan document the project team from the previous phases to serve as the project team for key project information for this phase.

The project management plan is used by the project team to track, review and regulate the progress of the project. This is done throughout the project and includes comparing actual project performance against the project management plan, identifying, accessing and managing new risks, and status reporting.

The number one cause of project schedule and cost overruns is project scope change. If scope changes are not controlled, the project schedule and budget will be negatively impacted. The change control process, along with proper planning of the project’s scope, will assist the project manager and team in controlling scope creep (work that is outside of what was originally agreed upon).

Project scope changes can be additional functional enhancements to the product, additional costs or changes in project schedule. Excessive scope changes are directly related to poorly defined product requirements and specifications. To avoid excessive scope changes, the project team should clearly document all the project requirements in the project charter.

Integrated Change Control is for identifying, tracking, and taking action on requested or otherwise necessary changes to the scope, time or cost of the project. A change control board or project sponsor should be identified as the final authorization for all changes.

The project baseline is used for all change control requests and at project close.

CHANGE REQUEST FORM | MICROSOFT EXCEL, SHAREPOINT
The change request form is a tool to identify and define a requested change to project scope, time or cost. The change form should be as complete as possible and may require additional information from the project team prior to the review process. Change Requests are logged in the Change Log.

CHANGE LOG | MICROSOFT EXCEL, SHAREPOINT
A tool to maintain a running log of change requests, comments and disposition. It may be used in conjunction with the change request form. Actions approved through the integrated change control process will impact other areas of the project management plan which should be updated as part of the process.

Each change request is documented using a change request form and recorded in the change log for the project. The change request is reviewed and compared to the current project baseline. After review and approval by the Sponsor and/or Executive Management all projects documents and templates are updated including the project baseline. The updated project baseline becomes the current version of the baseline used by the project team and future change requests.
PROJECT MANAGEMENT PHASE: TRANSITION AND CLOSE

Project Transition and Close is the final phase of the CPO project management lifecycle. It ensures that all appropriate deliverable approvals are received and that project files are updated with information gathered throughout the lifecycle of the project.

The purpose of project transition and close is to formalize the delivery of project objectives, update historical project resources for future project use, and update project files.

The primary objectives of project transition and close are:
- Acceptance of deliverables by Stakeholders and Sponsor(s)
- Update of project files
- Project or phase closure documents
- Documentation of project successes
- Documentation of project Lessons Learned

Project files updated during project closeout may include Stakeholder notifications, project reports, project presentations, project records (including emails, memos, and meeting minutes), feedback from stakeholders, and lessons learned. Lessons Learned are gathered throughout the project lifecycle. During project closeout, all lessons learned are reviewed and their resolution is documented by the project team.

PROJECT DOCUMENT RESOURCES
Every project requires a document signoff to acknowledge and approve the end of work and project activities. Close activities are conducted on a deliverable level using acceptance forms and the acceptance log. As such, the close of deliverables can occur during earlier project management lifecycle. But the entire project is closed only at the end and requires the completed project close report document.

PROJECT CLOSE
Project Close is a tool to document the final state of the project and deliverables, acceptance, conditions or contingencies. Scope changes, Lessons Learned, approvals and other project documentation and their location are identified in the report.

PROJECT DOCUMENT TEMPLATES
Another aspect of Project Transition and Close is the update of historical project information for use by future projects. The Project Transition and Close phase templates are used during the project closeout. A project team closeout meeting is held during which lessons learned are reviewed and updated.

ACCEPTANCE FORM | MICROSOFT WORD, SHAREPOINT
Acceptance Form is a tool that clearly identifies a project deliverable or product and acceptance/approval by the Project Sponsor.

ACCEPTANCE LOG | MICROSOFT EXCEL, SHAREPOINT
Acceptance Log is a tool to maintain a running log of deliverable/product acceptance for the project. This tool is often useful in large projects with phased roll outs.

PROJECT CLOSEOUT REPORT | MICROSOFT WORD, SHAREPOINT
Project Closeout Report is a tool to ensure that all project activities have been completed and the project is ready for close. It ensures that all acceptance criteria have been met, management plans have been finalized and that
resources have been released. Important components of the project report include a formal review of lessons learned as well as archival of project data.

LESSONS LEARNED | SHAREPOINT
Lessons Learned is a tool to capture information for use by future projects. It may be captured during project execution or at project close. A formal review of lessons learned is scheduled as part of the project close report.

PROJECT PHASE GATE REVIEW
Gate # 3: Project Transition and Close phase begins when the Sponsors and Stakeholders (or appropriate project authority) accept the project deliverables and established project goals have been met. After review and approval by the Sponsor and/or Executive Management, all projects documents and templates are archived including the project baseline.

PROJECT MANAGEMENT SKILL AREAS

COMMUNICATION MANAGEMENT
Project Communications Management includes the activities and tasks needed to ensure effective stakeholder and project team communications. Communications can make or break any project, and it falls to the project manager to act as a bridge between the technical and business needs of a project as well as navigating through organizational, cultural, and philosophical needs to ensure the right information reaches the right people in a timely manner.

BENEFITS OF MANAGED COMMUNICATION
Communication is an essential part of day-to-day university activity. Communication is especially important when the university community will be impacted by an upcoming change that affects the way daily activities are conducted. The project team must prime the client (or “target audience”) for the impact the project will have in order to increase user acceptance, prepare them for change, help them understand reasons for it, and assist them in understanding the impact the project will have on their university activities.

<table>
<thead>
<tr>
<th>INTERNAL TEAM COMMUNICATIONS</th>
<th>EXTERNAL STAKEHOLDER COMMUNICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Developing common understanding</td>
<td>• Raising awareness</td>
</tr>
<tr>
<td>• Gaining consensus</td>
<td>• Increasing understanding</td>
</tr>
<tr>
<td>• Clarifying roles and responsibilities</td>
<td>• Building support</td>
</tr>
<tr>
<td>• Providing opportunity for feedback</td>
<td>• Encouraging involvement</td>
</tr>
<tr>
<td>• Providing inter-group coordination</td>
<td>• Securing commitment</td>
</tr>
<tr>
<td>• Understanding detailed work plan</td>
<td>• Managing expectations</td>
</tr>
<tr>
<td>• Understanding project operations</td>
<td></td>
</tr>
<tr>
<td>• Issue Management</td>
<td></td>
</tr>
</tbody>
</table>

Figure 8: Benefits of Managed Communications

COMMUNICATION MANAGEMENT: DOCUMENT RESOURCES
Several CPO document templates support and are used as part of the project management methodology as part of Communications Management.
STAKEHOLDER MATRIX

The stakeholder matrix is used to analyze the communication and distribution requirements of each stakeholder. The goal is to ensure that stakeholders, including the project team, are informed regarding all aspects of the project related to their involvement and responsibilities. Updates to the stakeholder matrix are used as input to update the Communications Management Plan.

To ensure effective communications, identify all project stakeholders. The project proposal document includes the list of primary stakeholders. The project team should use brainstorming techniques to create an extensive list that should include both internal and external stakeholders. Using this list, interview the identified Stakeholders in an effort to expand your list until all potential stakeholders are identified. Expand the details in your list of each stakeholder using the stakeholder matrix.

Fields included in this log include:
- General Information
  - Name, contact information, position, division, office location, role in the project, internal or external stakeholder
- Assessment information
  - Major requirements, main expectations, potential influence on the project, most important phase in the project lifecycle

Various project reports and documents help communicate and manage the project schedule, progress, and status to the stakeholders. It is essential to provide this information at the correct level of detail and to use the correct communication medium each stakeholder requires.

COMMUNICATION MANAGEMENT PLAN

The expected result from the project communication management plan is to ensure that accurate and effective communications take place during the project. The use of consistent communications through documents/templates and meetings will ensure a complete understanding for the entire project team and/or end users related to each individual’s requirements, tasks, and responsibilities.

MEETING AGENDA | MICROSOFT WORD, SHAREPOINT

The meeting agenda is a list of meeting activities in the order in which they are to be taken up, by beginning with the call to order and ending with closure. It usually includes one or more specific items of business to be discussed. It may, but is not required to, include specific times for one or more activities.

MEETING MINUTES | MICROSOFT WORD, SHAREPOINT

The meeting minutes are the direct written record of a meeting. They typically describe the events of the meeting, starting with a list of attendees, a statement of the issues considered by the project team, and related responses or decisions for the issues. Meeting minutes must be taken for ALL meetings and stored with the projects documentation to be accessible by auditors (internal and external).

PROJECT STATUS REPORT | PROJECT PORTFOLIO SOFTWARE (PPM)

The Project Status Report is a tool to communicate the progress of the project against the project schedule and cost baselines. Active issues and risks should also be discussed in the status report.

ASPECTS OF COMMUNICATION

The following areas must be addressed when developing an effective communication management strategy:
WHO IS THE AUDIENCE?

Faculty, staff, students, and non-ECU entities will be affected differently by any change the project causes. The following audiences must be considered when preparing communication:

Figure 9: Audience Types

Each of your Stakeholders, Clients, and other Project Members needs a different degree and type of information based on how the project change will affect them. Messages must be user friendly, targeted to the needs of the audience, and written in the style and at a level of understanding with which they are comfortable.

WHAT DO THEY WANT TO HEAR FROM YOU?

Affected parties should be advised of why the project is being implemented and the new or changing functionality that will be deployed. It is important that they understand that there is an upcoming change as well as why and how it relates to overall university objectives. Directly affected users must be informed of the implementation scope, timelines, goals, objectives, and what they will experience. We must manage user expectation so users clearly understand what they can realistically expect.

Considerations for key messages include:
- How will it impact me?
- Do I need to take any action?
- What will the new system look like?
- What can it do?
- What will change? When? Why?
- When will I get access?
- When will I be trained?

WHEN DO THEY WANT TO HEAR FROM YOU?

Communication must start early to minimize any misconceptions or incorrect information. Key users must be involved in the project right from the beginning, but communication cannot end there. It must continue throughout the entire project lifecycle. Timely communication must be delivered to each specific audience, with the correct message targeted to the needs of each specific audience.

The timing of message delivery must be considered to give enough notice to prepare the audiences for change, complete any actions required, and allow for a psychological adjustment period. But the message should not be
delivered too far in advance so that interest wanes or that the message is forgotten. Also, please keep in mind that this project may be only one of several other IT changes being implemented. We must ensure sufficient notification is given to departments so that they can coordinate any other changes that may also be impacting them.

HOW DO YOU REACH THEM?
The delivery approach must be considered for each unique audience, using different strategies and messages based on what they need to know.

Messages must be tailored to the various users’ levels of understanding and knowledge of the project. Technical terminology and jargon must be minimized in communication material.

You must maintain consistent presentation of all communications circulated outside the immediate project team. This practice will give each project a unique identity that distinguishes it from other projects and activities that may be taking place at the same time.

The most appropriate way to reach the target audience must be determined. A variety of methods of communication should be used depending on the message to be delivered and the audience to which it will be delivered. Critical and personnel changes are often best conveyed using individual letters to employees, whereas general project updates and strategies could be better communicated via email, web pages, user group meetings, etc. The correct balance of formal vs. informal and direct vs. indirect, communications is essential to project success.

STRATEGIC VS. TACTICAL COMMUNICATIONS
A successful communications plan enables the targeted audience to understand and take action in a timely and robust manner. To tailor the communication message appropriately, you must first determine the intent behind the communication and decide if the message is strategic or tactical in nature.

STRATEGIC COMMUNICATIONS
Strategic forms of communication broadly convey a concept or plan. Not only is the level of understanding intended to be of a general nature, but the audience is also expected to be broad.

TACTICAL COMMUNICATIONS
Tactical forms of communication are meant to convey specific information about a concept or plan. This targeted communication is meant for users who will be applying the content of the communications message into tangible action. Therefore the content must be clear and concise.

COMMUNICATION METHODS
There are numerous communication methods; the following provides a summary of the more popular ones with the advantages and disadvantages listed for each.
### METHOD

<table>
<thead>
<tr>
<th>ADVANTAGES</th>
<th>DRAWBACKS</th>
<th>COMMENTS</th>
</tr>
</thead>
</table>
| **Meetings** | - Direct  
- Informative  
- Interactive  
- Suitable for sensitive issues, discussion, decisions | - Often seen as an interruption to work  
- Difficult to keep to agenda | - Provides opportunity to raise questions, issues, status updates  
- Acts as a checkpoint among parties for integration issues |
| **Workshops** | - Interactive, promotes involvement, discussion  
- Allows specific feedback  
- Encourages buy-in | - Difficult to organize  
- Requires lengthy lead-time  
- Return on investment is difficult to gauge and success is not guaranteed | Must carefully select the mix of participants and ensure the session is well facilitated and highly interactive to maximize participants’ time. Groups should not be too large and should have similar needs |
| **Road shows, Demos** | - Interactive, promotes involvement  
- Immediate feedback  
- Reaches wide target audience  
- Includes consistent, prepared messages  
- Is high impact | - Difficult to organize  
- Requires lengthy lead-time  
- Requires credible presenters | Important to involve users and encourage buy-in. Starts getting users accustomed to “look” of new system, general terminology, thereby, reducing learning curve |
| **Web Page(s)** | - Consistent message  
- Low cost  
- Paperless  
- Creative format | - Impersonal  
- Not for time-sensitive messages  
- One-way communication  
- Requires understanding and accessibility to technology | Effective for communicating generic messages that are not time-sensitive or confidential |
| **Email Listserv, Mass Mail, Departmental Mailing, Electronic Mailing Lists** | - Consistent prepared message  
- Low cost  
- Paperless  
- Target specific audiences  
- Immediate | - Accessible via linked PC only  
- Easily ignored | Allows for the quickest dissemination of information across multiple sites if target audience has required technology |

---

**Figure 10: Communication Methods**

## ISSUE MANAGEMENT

Issues are unplanned or unexpected problems that arise during the course of a project. Issues will develop over the project lifecycle. Issue method, means, and efficiency by which these issues are addressed and communicated to the stakeholders will help determine if the project remains on budget and on time or if there will be project overruns. Some issues may impact project scope, schedule, cost, resources, integration, or quality and are generally beyond a particular project work group’s authority or capacity to resolve.
An issue differs from a risk in that an issue is an actual fact, while a risk is an event that may or may not occur in the future. The project team executes the issue management process under the direction of the project manager. Issues will be brought to the attention of the project manager.

ISSUE MANAGEMENT PURPOSE AND OBJECTIVES
Issues are always associated with some degree of impact to the project and therefore need to be assessed and resolved in a timely fashion. The purpose of defining issue management procedures is to assist the project team to identify, assess, monitor and resolve project issues. This ensures that the issues are dealt with in an orderly and timely manner while managing potential impact to the project.

The primary objectives of Issue Management are:

• Communicate the impact of issues to appropriate Stakeholders
• Manage each issue as a concern from identification to closure
• Allow each issue to be resolved and monitored based upon direction from the appropriate authority
• Allow less significant issues to be managed with a minimum of overhead

![Impact Scale](image)

**Figure 11: Issue Impact Scale**

ISSUE MANAGEMENT PROCESS AND PROCEDURE

The initiation of the formal Issue Management procedure begins when issues are discovered. The project team supports the issue management process. The documentation and tracking of all issues is managed using a defined procedure and facilitated by the use of the issue log.

Anyone on the project team can initiate an issue by contacting the project manager. The project manager reviews the issue in the context of the project management plan. If the project manager determines that the issue is relevant, an issue log is completed, and the issue management process is executed.

The purpose of the Issue Log is to act as the source document for all the details related to a specific issue. The issue log is to be used for all types of issues or problems that are encountered during the project (functional, technical, or project management issues). Moreover, the Issue Log documents the history of the issue, so they can provide all the activities that have happened during the issue lifespan – from identification to resolution.

Ownership for the issue falls upon the particular resource(s) assigned to its fulfilment; it is their responsibility for the maintenance of the issue. To ensure visibility of the overall issue management process, the project manager is charged with properly documenting the issues within the issue log.

The project team has regularly scheduled meetings on a frequent basis and meetings with stakeholders that include issue discussion as an agenda topic. Within these discussions the Team provides greater details and the project manager leads discussion of each open, deferred, or in-process issue. The status of each non-closed issue is reviewed/determined (open, closed, deferred, or in process), and follow-on activities are scheduled as appropriate.
ISSUE TYPES

Issue types are determined when the Issue Log is created or updated.

<table>
<thead>
<tr>
<th>Category</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial</td>
<td>Budget, Procurement</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>Hardware, Network, ERP</td>
</tr>
<tr>
<td>Project Management</td>
<td>Planning, Execution (Monitor/Control), Transition/Close</td>
</tr>
<tr>
<td>Business</td>
<td>Processes, Procedures</td>
</tr>
<tr>
<td>Training</td>
<td>Process, System</td>
</tr>
<tr>
<td>Testing</td>
<td>Performance, Regression, User</td>
</tr>
<tr>
<td>Development</td>
<td>Software Design</td>
</tr>
<tr>
<td>Requirements</td>
<td>Business or System</td>
</tr>
<tr>
<td>Resource</td>
<td>Resource Constraints</td>
</tr>
</tbody>
</table>

**Figure 12: Issue Types**

ORDER/TIMING OF ESCALATION FOR ISSUES

Once the issue has been identified, documented, and assigned the resolution and escalation process begins. The person assigned to the issue is responsible for ensuring that all available/appropriate information is provided for the issue on a timely basis. Generally speaking, information should be gathered for the project meeting as determined by the project manager. The project manager will determine a timeframe for resolution of high priority issues within the context of the project.

When resolution of an issue requires a change to the scope, schedule, or cost of the project, the change management/control process must be followed to control and implement the resolution.

ISSUE ASSESSMENT

Use the Issue Impact Scale to identify the importance of a specific issue with regard to its priority and potential negative impact on the project. An issue with critical/high severity is an urgent and serious issue; it may cause the
project to stop until the issue is resolved. In contrast, if the issue is ranked as medium severity, monitoring the issue management process should be sufficient. Low severity issues may be monitored in case escalation is needed within the issue management process.

ISSUE MANAGEMENT TRACKING

To further define the issue management process, each issue will be tracked through:

<table>
<thead>
<tr>
<th>Stage(s)</th>
<th>Purpose</th>
<th>Action(s)</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiate</td>
<td>Identify and document the issue</td>
<td>• Identify the issue&lt;br&gt;• Report the issue to the Project Manager</td>
<td>Project Team Member</td>
</tr>
<tr>
<td>Validate</td>
<td>Verify the issue is valid and requires management</td>
<td>• Identify member of the project team as the issue owner(s)&lt;br&gt;• Validate/investigate issue with project team members as appropriate</td>
<td>Project Manager</td>
</tr>
<tr>
<td>Analyze</td>
<td>Assess priority and severity and assign responsibility to investigate alternatives</td>
<td>• Analyze urgency and impact of issue and update the issue report with the analysis&lt;br&gt;• Assign responsibility to investigate the issue and action alternatives&lt;br&gt;• Update the issue Report with the assignment</td>
<td>Project Manager</td>
</tr>
<tr>
<td>Plan</td>
<td>Investigate and recommend a course of action</td>
<td>• Investigate, recommend the best approach, and estimate the effort to resolve the issue&lt;br&gt;• Escalate unresolvable issues&lt;br&gt;• Update Issue Report with findings, recommendations, or other information</td>
<td>Issue Owner&lt;br&gt;Assigned Team Member</td>
</tr>
<tr>
<td>Control</td>
<td>Decide on course of action</td>
<td>• Review the recommendation&lt;br&gt;• Approve the recommendation, identify alternative action, or escalate the issue&lt;br&gt;• Initiate a change request, if required&lt;br&gt;• Assign the task of implementation the resolution&lt;br&gt;• Update the Issue Report with decision and assignment information</td>
<td>Project Manager</td>
</tr>
<tr>
<td>Monitor</td>
<td>Execute and monitor implementation of the approved course of action</td>
<td>• Track issue resolution at Status Meetings&lt;br&gt;• Communicate issue status to project team members</td>
<td>Project Manager</td>
</tr>
<tr>
<td>Close</td>
<td>Verify that action is complete, issue is resolved, and close issue</td>
<td>• Verify the issue is resolved&lt;br&gt;• Record issue resolution and the decision maker(s)&lt;br&gt;• Make any plan changes necessary&lt;br&gt;• Update budget if Change Control with budget impact is approved&lt;br&gt;• Close in the issue report with resolution action on the issue Log</td>
<td>Project Manager</td>
</tr>
</tbody>
</table>

Figure 13: Issue Management Process
SCOPE AND TIME MANAGEMENT

Project Scope and Time Management includes defining the work required (and only the work required) and developing the schedule to complete the project successfully. The high-level scope statement is included in the project proposal document and is detailed to the next level in the project charter.

Scope Management continues the progressive elaboration process by collecting detailed requirements, defining scope, dividing the project deliverables and project work into smaller, manageable components, gaining acceptance for the scope, monitoring the project scope, and managing changes to the scope baseline. Upon finalization of the detailed work to be completed for the project, a project schedule is developed and project activities are managed to this schedule.

It is important to note that normally, especially in an Information Technology environment, each project typically deals with managing both the project lifecycle and the product development lifecycle. Project Management follows a lifecycle that defines how to bring the project from inception to close.

The product development lifecycle in an IT environment defines how to bring the product(s) from inception to operational delivery. The development lifecycle for an IT product typically includes functional design, technical design, technical build, testing and deployment. The project schedule will represent activities in both the project management lifecycle and the development lifecycle for the products to be delivered. This will impact how the milestones and work packages are defined and translated to the schedule to produce the project deliverables.

Changes (additions or removals) to timeframe, required scope and/or budget are managed using the Integrated Change Management process.

The primary objectives of project scope and time management are:

- Collect detailed project requirements
- Scope definition
- Detailed breakdown of project work
- Identification of activities and their sequence
- Activity resource and duration estimates
- Schedule
- Gate review of project deliverables with Customer or Sponsor
- Managing changes to scope
- Control of the schedule by managing changes.

Processes completed in scope and time management provide the basis for the project schedule. The project schedule is normally prepared with tasks and associated estimates as well as start-dates and end-dates for each task.

A baseline is created and project progress is then reported against this baseline and the actual project schedule. Periodic baselines are recorded to track changes to the project schedule as managed through the Integrated Change Management process.

COLLECT DETAILED PROJECT REQUIREMENTS

Tools normally used to collect requirements include interviews, focus groups, facilitated workshops and prototypes. Requirements documentation should include:

- Business need addressed
• Functional requirements describing the business processes, information and interaction. These may be gathered in documentation or flowchart form.
• Other requirements such as service expectations
• Quality requirements
• Acceptance criteria
• Impacts
• Support and training requirements

SCOPE DEFINITION
Development of the scope definition builds upon major deliverables, assumptions and constraints provided in the project charter. The project manager uses expert judgment to analyze information needed to define scope. Using the stakeholder matrix, the project team identifies and interviews stakeholders that can provide detailed requirements and milestones. These are then defined and documented.

DETAILED WORK BREAKDOWN STRUCTURE (WBS)
At this point stakeholders as well as other resources within the organization such as subject matter experts, other units within ECU as well as outside sources such as consultants are contacted.

Using the detailed requirements and milestones a detailed breakdown of the project work and subdivision of the project into actionable components is performed. Often a work breakdown structure (WBS) is utilized to facilitate this process. Each level of the WBS progresses further into the detailed activities that support the higher level activities. Detailed breakdown of the work provides a more concise identification and therefore estimation of project activities.

IDENTIFICATION OF ACTIVITIES AND THEIR SEQUENCE
Once project activities are broken down to their lowest level, all activities required to produce the project deliverables are identified as work packages. Work packages are further broken down into activities which can be sequenced and estimated.

ACTIVITY RESOURCE AND DURATION ESTIMATES
Activity resource estimates can be determined by using a variety of tools. These include expert judgment, bottom–up estimating and types of estimating software. Once resource estimates are determined, resource types and their availability, numbers of resources and the resource calendar can be used to estimate durations.

SCHEDULE
Typically a scheduling tool such as project portfolio software is utilized to develop the schedule. Activity sequences, durations, resource requirements and scheduling constraints are utilized as project activities, activity durations and resources are mapped into the scheduling software. The project schedule consists of project activity, planned start and finish dates for each activity, milestone dates, resource estimates and resource names.

REVIEW OF PROJECT WITH CUSTOMER/SPONSOR
Using the expectations in the project proposal document and the project charter, a detailed review between the project client or sponsor and the project team is performed. The detailed project schedule, project management plan, requirements and deliverables are reviewed.

If the project proposal document and the project charter are not in agreement with the detailed project schedule, project management plan, requirements and deliverables the project client or sponsor will need to approve changes to the project proposal document and the project charter. Without this agreement the project
cannot move forward. Once the project proposal document and the project charter agree with the detailed project schedule, project management plan, requirements and deliverables the project will move forward.

PROJECT SCOPE BASELINE IS CREATED
After the project client or sponsor agrees with the detailed project schedule, project management plan, requirements and deliverables and the project charter is in agreement, a project baseline is created. The project management plan will be updated with the baseline. At this point any changes to the project scope, budget or timeline will require a change request.

PROJECT SCOPE AND SCHEDULE MANAGEMENT
Using the agreed baseline, the project manager and the project team work to ensure project scope, including the schedule, is aligned with the baseline. Performance reports keep the stakeholders apprised of the project’s status.

RECOGNIZING PROJECT SCOPE CHANGE
If an activity is not listed in the approved project charter, it indicates a scope change. Scope changes are commonly requested as:

- **Formal client requests**: The client makes a formal request for an additional function to be incorporated into the project after the scope has been defined and approved.

- **Informal client requests**: The client may make an informal request for additional functionality or process.

- **Project Team suggestions**: These scope changes represent functions introduced by a project team member that involve design, build, or other features not included in the project charter.

- **Problem Reports**: These changes are the result of a system issue or problem resolution report that identifies non-compliance to business requirements or detailed design document. Problem reports will usually result in a change request.

- **Operational Incidents**: Operational incidents will arise during the project lifecycle that may directly impact the timeline, scope, or resources. Operational incidents must be reviewed, estimated, and approved by management. Some issues may result in a project change request, and others may be addressed through the operational change control process (ITSM).

CONTROLLING PROJECT SCOPE CHANGES
Three (3) steps are necessary to control scope changes:

1. Proper planning and scoping
2. Agreement from the project approvers
3. Formal change control process

PROPER PLANNING AND SCOPING
Proper planning and scoping entails completely defining the project/product in the project charter. Most projects’ specifications define the level of detail that allows all project groups to perform their reviews and assessments productively. The project scope defines the project’s output.
FORMAL CHANGE CONTROL PROCESS
Projects are never static. Changes are to be expected during project lifecycle. A formal process has been established to ensure all project changes are identified and made in an orderly manner. As project change requests are made, a change control process is necessary to confirm that the following occurs:

• Only necessary changes are made.
• Changes are communicated to all affected parties.
• Changes that involve project scope, cost, schedule, or resources are captured and approved, and the project documentation is updated.
• Changes are implemented in an orderly fashion.

INTEGRATED PROJECT CHANGE CONTROL PROCESS
Project Change Control ensures that the project team has a process to request changes while ensuring that a consistent process is followed to determine the outcome of each request. Ensure the team understands the change control purpose and its importance to the project.

IDENTIFY THE CHANGE CONTROL PARTICIPANTS

• Change Requestor – Customer or Project Team
• Change Authorizers (Project Manager, Project Sponsor and/or ITS Executive Management)

REVIEW THE CHANGE CONTROL PROCESS WITH THE PROJECT TEAM

• Project Manager completes and submits the Change Request Form.
• Project Manager submits the Change Request Form via email to Project Team, Project Sponsor, and/or ITS Executive Management.

CONDUCT CHANGE REQUEST REVIEW MEETINGS FOR CHANGE DECISION

• Project Manager will schedule a meeting with the change request approvers to review the proposed change within five (5) business days of email submission. All critical change requests must be acknowledged and steps taken towards resolution within five (5) working days.
• Project Manager will ask the authorizers to sign the change request form and document the decision.
• Project Manager will update the project management plan, change control log, and other appropriate documentation based on the change request decision.

TRACK CHANGE REQUESTS

• When change requests are made, regardless of their disposition (approval/rejection), they are entered into the change request log and their disposition is tracked to project completion. When/if the change request is accepted, the tasks and activities required to execute the change are entered into the project management plan.
• The project manager updates the project management plan with the new activities and tasks, as created by the change request, and adjusts the project schedule, plans, dates, deliverables and dependencies.
• Log the change request into the project’s change control log and tracks the change through task completion.
INTEGRATED CHANGE CONTROL

The Integrated Change Control process is used for requesting, reviewing, approving, carrying out, and controlling changes to the project’s deliverables. The Integrated Change Control process becomes effective immediately after the project charter has been signed and remains in effect until project close is signed.

A project will likely undergo changes; the project manager controls the changes to manage the impact to the project management plan, budget, and implementation schedule through the change control process.

Some changes will be unavoidable – instances where changes have to be made to comply with legal or federal/state regulations; policy changes; regulatory requests; changes in the business direction; or situations in which technology may dictate a change. Other non-essential changes can be avoided through management of a formal change control process as it provides for review and approval of each requested change.

CHANGE IMPACT

The framework addresses project change management (“Change Control”), but it is important to understand different change management impacts as all could affect your project.

OPERATIONAL CHANGE MANAGEMENT

Operational Change Management encompasses all activities aimed at helping an organization successfully accept and adopt new technologies and new ways to serve its clients. Effective change management enables the transformation of strategy, processes, technology, and people to enhance performance and ensure continuous improvement in an ever-changing environment. A comprehensive and structured approach to organizational Change Management is critical to the success of any project/or business change.

The overriding theme of effective operational change management is communication. IT governance structure, change and configuration management processes, and supporting tools serve to ensure the integrity of the infrastructure baseline and the systematic communication of changes to that baseline. Integration of change control with Incident Management processes fosters communication of service disruption information to those responsible and affected.

Information Technology and Computing Services (ITCS) has one form of operational change management.

1. The Banner Change Management Committee (BCMC) is the group that coordinates and communicates changes happening to Banner that impact the production environment. The group meets third the Thursday of each month and has a calendar that keeps the team informed regarding impending changes. If you have an operational change being introduced, it is the project management team’s responsibility to update the calendar as to what the change is and when it is happening. It is also important to have someone (such as the project manager) attend the meeting to discuss the change and answer any questions that may come up. Ensuring the group has a contact name to discuss any concerns or updates is critical. Presenting the change as early as possible is always best.

Change management can be achieved through use of request forms and log. It is important to document each change request, and to track those change requests, in order to manage change through the life of your project.

COST MANAGEMENT

The Cost Management process includes estimating, budgeting and controlling costs so that the project is completed within the approved budget. Cost Management considers stakeholder requirements for capturing costs, the cost of the resources needed to complete the project, and the effect that project decisions have on the
overall cost of the project (including recurring cost of maintaining and supporting the product, service or result of the project).

Cost management assists in ensuring that the project delivers the expected Return on Investment (ROI). ROI is an indicator used to measure the financial value of a project relative to its cost. Although at project initiation cost estimates may be high level, through progressive elaboration, the budget numbers will become more accurate. Historically, projects have frequently been based on qualitative, value-added reasoning; for example, “if we implement this technology, then we will be able to perform these additional services.” However, recently state/university Internal Auditors are requesting more financial accountability, combined with an increased understanding of the costs associated with implementing enterprise IT systems; demonstrating benefits realization and that appropriate project accountability is occurring. This involves assessing the ROI at both project initiation and year one; post-project implementation, for all major projects.

Why is ROI Important?
- Quantifies Project Value – ROI is its ability to show leaders the associated dollar figure of a project’s worth
- Stakeholder Support – Stakeholders often want to see what the related monetary value is to them if they are to support a project
- Additional Benefits – Calculating ROI forces the investigation of benefits that might not have seemed obvious at project inception
- Project Prioritization – ROI helps determine the project’s priority amongst other organization initiatives; typically, projects with greater ROI are ranked higher and gain resource support

**RISK MANAGEMENT**

Risk management is used to define uncertainty in a project and to plan for actions to address the event or condition should it occur. Risk management embodies a methodology that defines the tools and data sources to be used for risk management. Data sources for risk management include the scope statement, cost management plan, schedule management plan, communications management plan as well as existing conditions and processes that may impact project success.

Your project’s risk management plan includes the following steps:
1. Identify high level risk
2. Identify project risks
3. Assess risk probability and impact
4. Prioritize risks
5. Plan risk responses
6. Manage risk

**HIGH-LEVEL PROJECT RISK**

High level risks should be identified by the project sponsor and project manager at the time that the project charter is completed

Risk is an event or condition that may occur with impact to at least one project objective. A cause may be a requirement, assumption, constraint or condition that creates the possibility of positive or negative outcomes.

Risks are assessed according to the potential impact to the project and the probability of their occurrence.
A risk may also occur due to the environment in which the project is occurring i.e. immature project management practices, concurrent multiple projects or dependency on external resources for project completion.

A project contingency plan is created to deal with unknown risks that may become known as the project continues. Probability and impact for each risk should be assessed and priority documented in the project charter for consideration during project approval. If the project carries significant risks from its inception, these risks should be reviewed and considered as a part of the project approval process. If significant risks are identified, they should be reviewed by the group approving the project to determine if these risks can be mitigated or otherwise assigned prior to beginning the project. High level risks may be substantial enough to cause the project to be stopped.

IDENTIFY PROJECT RISK

Project risks are identified by project sponsors and stakeholders. Risk identification is an iterative process. A risk identification workshop is scheduled during project planning to review project risk management process and to develop the initial risk log. The log is then reviewed routinely throughout the project. Identification of risks should be consistent across risks so that risks can be compared.

ASSESS RISK PROBABILITIES AND IMPACTS

The Risk Impact Scale is used to assess risks. There is always a measure of risk and consequences associated with business decisions. Depending on the project structure, risks are identified either during a risk workshop or ongoing risk reviews. The project manager and the project team will draft mitigation plans.

Stakeholders/Sponsors/Project Manager/Team will identify the probability and impact to the project associated with each risk. The project manager will assign the owners of each risk and review the risk log and plan with the risk owners and project stakeholders to gain approval.

<table>
<thead>
<tr>
<th>Rating</th>
<th>Significance</th>
<th>Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 to 16</td>
<td>Critical</td>
<td>Risk is required to be escalated to Senior Management, with mitigation options if possible</td>
</tr>
<tr>
<td>9 to 12</td>
<td>High</td>
<td>Management item to be monitored by, Project Manager and Senior Management</td>
</tr>
<tr>
<td>4 to 8</td>
<td>Medium</td>
<td>Risk for Project Managers to monitor- doesn't require escalation</td>
</tr>
<tr>
<td>1 to 3</td>
<td>Low</td>
<td>Risk to track for awareness and monitor if it needs escalation</td>
</tr>
</tbody>
</table>

**Figure 14: Risk Impact Scale**

The basic steps for assessing risk probabilities and impact are as follows:

1. Identify risk to assess
2. Determine the risk probability, severity, level of control and note it on the matrix (low, medium, high, critical)
3. Determine the risk significance by the impact rating
4. Determine risk response (transfer, avoid, mitigate, accept)

Impact significance levels are, low, medium, high, or critical which indicate some action needed. Low/green does not require a response plan, but medium/yellow, high/amber, and critical/red do require a response plan.
PRIORITIZE RISKS

The review of each risk, and the final agreement and judgment of the level of the probability, severity, level of control of each, needs to be made by the whole team. If you do not have consensus; determine using tie breaker rules.

PLAN RISK RESPONSES

Risk priorities are updated in the risk log. For each risk that requires a response, the strategy is planned by the project manager, project team and stakeholders. Risk strategies exist for negative and positive risks.

NEGATIVE RISK STRATEGIES

- **Avoid** – change the Project Management Plan to avoid the risk. This response should invoke the change management process to change the Project Management Plan.
- **Transfer** – shift the negative impact of the threat and the ownership of the response to a third party such as a consultant.
- **Mitigate** - reduce the probability or impact of the risk to an acceptable level.
- **Accept** - document the strategy with no changes to the Project Management Plan to deal with the risk. The risk can be dealt with by the Project Team when/if it occurs or contingency can be identified to address the threat should it occur.

POSITIVE RISK STRATEGIES (OPPORTUNITIES)

- **Exploit** – strategy to ensure that the opportunity is realized.
- **Share** – allocate some of the ownership or opportunity to a third party.
- **Enhance** – strategy to increase the possibility or positive impact of the risk.
- **Accept** – strategy to be willing to take advantage of the opportunity if it comes along.

MANAGE RISKS

Risks are managed throughout the lifecycle of the project. Risks are reassessed routinely in regularly scheduled Risk Workshops. During risk workshops, new risks may be identified, existing risks are assessed and risks are closed.

Basic methodology for risk management will be implemented via the risk log. Through this document, risks are identified, prioritized and risk response planned and documented. Impact Scale provided on page 32 are used to prioritize risks.
LESSONS LEARNED

The purpose of the lessons learned repository is to capture the project’s Lessons Learned in a formal location for use by project managers on similar future projects. The lessons learned encompasses teamwork and tools. Capturing lessons learned is an integral part of every project and serves several purposes. While finalization of a formal lessons learned document is completed in a review meeting during the project transition and close phase, capturing lessons learned should occur throughout the project lifecycle to ensure all information is documented in a timely and accurate manner.

The lessons learned serves as a valuable tool for use by projects within ITCS who are assigned similar projects. This should not only describe what went wrong during a project and make suggestions on how to avoid similar occurrences in the future; it should also describe what went well and how similar projects may benefit from this information. This document should be communicated to the project sponsor and included into the lessons learned SharePoint repository located on the ITCS CPO SharePoint site.

This document may be used as part of new project planning for similar projects in order to determine what problems occurred, how those problems were handled and how to avoid them in the future. Additionally, this document details what went well with the project and why, so that other project managers may capitalize on these actions. Project Managers may also use this document to determine who the project team members were in order to solicit feedback for future project planning. This document will be formally communicated with the organization and will become a part of the organizational assets and archive.

This will attempt to develop a common understanding and approach to the lessons learned process.

LESSONS LEARNED APPROACH

It is important that the lessons learned approach is covered in the initial stages of project planning. A methodology along with an appropriate set of tools should be established to capture these lessons throughout the project’s lifecycle. If no thought is given to lessons learned until project closeout, then it is likely that essential information will be omitted. Lessons Learned should be detailed enough to provide value for future use, and the contents should be consistent with other Lessons Learned documents.

Lessons Learned are also gathered from both realized and unrealized risks in the project risk register as well as through interviews with project team members and other stakeholders as necessary. The lessons learned in this document are categorized by project knowledge area. The knowledge areas consist of risk management, integration management, quality management, time management, procurement management, cost management, scope management, and communication management.

LESSONS LEARNED FROM A PROJECT

The lessons learned from a project must be communicated in a consistent manner. In addition to the categorization and description of the lesson, it is important to state what the impact was and provide a recommendation for project managers to consider on future projects. It is important to note that not only failures or shortcomings are included but successes as well.