
**Office of Information Technology (OIT) Project Management Office (PMO)**
**Rutgers, The State University of New Jersey**

www.oitpmo.rutgers.edu

# Project Management Process & Methodology

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**Project Management Process & Methodology**

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## Executive Summary

The Office of Information Technology (OIT) Project Management Office (PMO) is responsible for the planning, coordination, tracking and financial management of TD project initiatives undertaken on behalf of the Rutgers University community. Projects typically take the form of telecommunication implementations for renovations (space make-over; light construction), additions (building space add-ons; expanded infrastructure) or new buildings (heavy construction; new infrastructure).

The OIT PMO maintains a project management process & methodology and provides overall governance for the effective and cost-efficient management of OIT projects.

This document outlines the OIT PMO Project Management Process & Methodology. This process/methodology is just one component of the larger OIT PMO project governance framework.

For authorized users, the entire content of this document, including attachments and templates, can be found at the OITPMO website - www.oitpmo.rutgers.edu.

## II. PMO Project Management Process & Methodology Overview

The PMO Project Management Process & Methodology allows structured and standardized governance of OIT projects. The process is founded on project management best practices and has been designed to provide flexibility for differing projects. As will be discussed later in this document, the process is anchored by several project "phases" and various "steps" within each phase. The methodology includes various deliverables (artifacts) in each project phase. Taken together, these artifacts can be viewed as a "tool-set" that can be used to provide necessary controls for successful project implementations. Similar to the process itself, these artifacts have been designed to provide flexibility for differing projects.

The OIT PMO Project Management Process & Methodology serves the following purposes:

- enables timely and efficient implementation of OIT projects
- manages project risk to assure on-time and within-budget deliverables
- ensures quality deliverables per project scope and client requirements
- provides all stakeholders with an understanding of the OIT implementation process
- empowers stakeholders to contribute to project implementation and drives ownership and accountability of project activities
- provides a "tool" for knowledge transition
- maintains process documentation as a matter of best practice
- facilitates process assessment and improvement
- positions OIT in a professional light

The process/methodology is designed to be "light-weight" and to provide maximum value/overhead ratio. In other words, the process/methodology has been designed to be adaptable and flexible to varying needs of different projects. The scope and complexity of a given project will determine how faithfully the process/methodology needs to be executed and the degree to which the project stakeholders need to adhere to the standards described in this document. It is the responsibility of the PMO to determine, communicate and enforce the appropriate degree of adherence to the process/methodology for any given project.

The PMO Project Management Process & Methodology will "evolve" and be adjusted over time after assessment of process efficiency and effectiveness. The tools used to support the PMO process and methodology will also evolve over time. Currently the process is supported by the Microsoft Office suite of products (MS-Word, MS-Excel, MS- project), the RIAS system, and a "home grown" data repository (OIT-PMO directory) that contains all project related information. This current solution, while not providing a fully integrated project management "system", allows the PMO to manage projects in a structured and standardized manner. Over time, additional options (e.g. data repository, information query & reporting, workflow) will be considered to create a more fully integrated project management system.

## III. Stakeholder Roles & Responsibilities:

*(Refer to attachment 1 -OIT PMO Stakeholders Context Diagram)*

The following stakeholders have a role in the PMO Project Management Process:

- **PMO Team-lead –** the individual responsible for overall project and financial management of the TD project portfolio, oversight of the PMO Governance Framework, and customer relationship management. In this role, the PMO Team-lead provides support for the individual Project Managers and a central point of contact for the TD Director.

- **PMO Project Manager (PM)** - the individual responsible for heading up specific projects and performing all project management, financial management, documentation management, communication management, and relationship management activities for those projects

- **OIT Partners –** Includes TD service providers including Network Architecture & Engineering, Inside Plant/Network Installation, Outside Plant Services, Video Services, Voice Services and LAN Support Services. These service providers are primarily responsible for technical solution design, specification and implementation. Also includes OIT Administration for accounting support. Also includes OIT service providers such as NBCS RESNET and Wireless Services. Includes New Brunswick, Camden and Newark technical teams.

- **Client** – the department and/or person(s) responsible for submitting project work requests, reviewing/approving project proposals and providing funding to OIT for project work. Also includes departmental technical teams and/or personnel in the client organization that may be responsible for various technical aspects of the project.

- **Service Providers** – those responsible for performing work covered by approved purchase orders. Includes OIT partners and subcontractors.

- **RU Facilities –** for various construction projects, RU Facilities will provide overall leadership and budget. In these cases the PMO, OIT partners, client organizations and service providers (including architecture and engineering firms) work closely with the Facilities project manager in planning and implementation activities

- **RU procurement –** responsible for processing purchase orders

The specific responsibilities of these individuals and organizations as they pertain to the PMO Project Management Process are detailed in the following sections.

## IV. PMO Project Management Lifecycle

*(Refer to attachment 2 - OIT PMO Project Management Lifecycle)*

The Project Management Process governs the project life-cycle which is comprised of the following five phases:

1. Project Initiating phase
2. Project Planning phase
3. Project Funding phase
4. Project Executing phase
5. Project Closing phase

Every project undertaken by OIT, whether small or large, complex or routine, has a lifecycle comprised of these five phases. As mentioned earlier, the scope and complexity of a given project will determine how faithfully the Project Management Process needs to be executed and the degree to which the project stakeholders need to adhere to the project management methodology described in this document.

The following section describes each phase of the project lifecycle as well as the key deliverables (artifacts) for each phase. These artifacts are utilized to provide the necessary controls for each project phase, to enhance project coordination and communication and to ensure for risk management and project success.

### 1. Project Initiating Phase

The project initiating phase begins with a client request for work. This request may be made directly to the PMO or to other OIT partners who will then inform the PMO. In any case, requests for service will be logged as a Network Operating Center (NOC) ticket for tracking purposes. The project initiating phase involves preliminary discussions and pre-planning with the requesting organization (client). It calls for determination of other stakeholders (e.g. OIT partner groups, and other RU departments) who need to be involved in the project. In the Initiating Phase the Construction Manager (CM) and Voice Field Manager (VFM) are identified and assigned. The initiation phase calls for notification and preliminary discussions with all stakeholders. For RU Facilities-led projects the PM will obtain copies of Facilities design documents and provide to the TD CAD team. Key deliverables include the Project Status Update (Notification) Form, Project Charter (w/Statement of Work) and the Project Plan. Some preliminary work (e.g. site survey, CAD) can take place during the initiation phase. This preliminary work may call for a client Letter of Intent (LOI) in order to secure a funding commitment from the client.

- **Project Status Update (Notification) Form** – notifies stakeholders that a given project has been requested and is either getting underway or has been put in queue. Typically the PMO team-lead will send notification to TD/OIT partners upon assigning a project number and PM. The assigned PM will send notification to the requesting client and other stakeholders to establish and convene the project kickoff meeting.

- **Project Charter (w/Statement of Work)** – the project charter is used to "frame" the project initiative and includes the project Statement of Work, project objectives, stakeholder assessment, project assumptions and communication plan. The Statement of Work indicates at a high level the project's functional requirements (what the client is requesting) and what telecommunications disciplines are seen as part of the solution.

- **Project Plan** – this is the preliminary high-level plan that lays out a broad timeline across the five phases of the project lifecycle. This preliminary plan is viewed as a "swag" and will be adjusted and detailed during later project phases. Prior to commencement of the Project Planning Phase, the project plan will be updated with a detailed "explosion" (drill down) of planning phase activities.

**2. Project Planning Phase**

This phase involves a detailed assessment of functional requirements, technical requirements, technical solution design, scheduling requirements and funding requirements. Key deliverables include the updated Project Charter (w/Scope of Work), Technical Design Document, Project Budget and Project Plan. All of these deliverables taken together make up the Project Proposal which is provided to the client for acceptance and approval. Preliminary work that got underway during the initiation phase may continue into the planning phase.

- **Project Charter (w/ Scope of Work)** – the Project Charter is updated with the Scope of Work providing a detailed "explosion" (drill down) of the Statement of Work. It will contain detailed functional requirements as determined in the planning discussions with the client and other stakeholders. The Scope of Work to some degree will speak in technical terms but is not meant to be a technical design/specification.

- **Technical Design** – this includes the proposed technical solution (technical requirements and specifications) for all telecommunications disciplines required of the project. This "integrated" design also includes appropriate design schematics that can be used to communicate the proposed technical solution to all stakeholders.

- **Project Budget** – this is developed based on service provider quotes and includes both labor and equipment costs. The project budget is used to communicate overall cost (one-time and recurring) to the client.

- **Project Plan** – this is a refinement of the original high level plan with adjustments made to the start/end dates for each project lifecycle phase and any necessary updates to the activities in the planning phase. Prior to commencement of the Project Funding Phase the project plan will be updated to include target dates for expected client acceptance and funds provisioning.

- **Project Proposal** – comprised of Project Charter (w/ Scope of Work), Technical Design, Project Budget and Project Plan *(Refer to attachment 3 - OIT PMO Proposal Development Model)*.

### 3. Project Funding Phase

This phase includes the client's acceptance of the project proposal and the provisioning of funds from the client organization to the OIT PMO account. Once funding is secured, notification will be provided to OIT partners and other stakeholders and project execution can begin. The key deliverables for this phase include the Client Letter of Intent (LOI), the Client Internal Purchase Order (IPO), the Project Status Update (Notification) Form, Project Financial Statement, and a refined project plan. Preliminary work that got underway earlier may continue into the funding phase.

- **Client Letter of Intent (LOI)** – indicates the client's approval of the project proposal and commitment of funds to the project.

- **Client Internal Purchase Order (IPO)** – this provides the transfer of funds to the PMO account.

- **Project Status Update (Notification) Form** – notifies stakeholders that client approval and funding have been received for a given project.

- **Project Plan** – this is a refinement of the original high level plan with adjustments made to the start/end dates for each project lifecycle phase. Prior to commencement of the Project Executing Phase the project plan can be updated to include a detailed "explosion" (drill-down) of the executing phase. The development of this execution plan involves all project stakeholders and is facilitated by the PM.

- **Project Financial Statement** – the financial statement for a given project is updated with funds requested and funds received information.

### 4. Project Executing Phase

The project executing phase includes the creation (or refinement) of the detailed execution plan and the execution of this plan. The plan must be comprehensive, taking into account all activities necessary to complete the project. The plan must be integrated so that activities for the various technical disciplines take into account resource availability, task dependencies and the overall project critical path. The plan must anticipate lead times for service and equipment provisioning and be adaptable in the event of change order requests. In this phase all necessary purchase orders are created, change orders are processed, and services are provisioned. Throughout this phase, project activities, project funds and project issues are tracked and monitored. Meetings and discussions are documented and socialized. The project plan, issues list and meeting notes are key mechanisms for communication among project stakeholders. If necessary, adjustments to the project charter, project plan, technical design, project budget and project proposal are

made to account for scope changes and other variables as documented in the change order request. If any OIT-Partner becomes aware of a change order request this should be communicated to the PM as soon as possible. Work needed as a result of a change order should not go forward until the PM is notified. In summary, during this phase, the PMO is responsible for all project coordination and communication activities while the OIT-Partner groups are responsible for all solution implementation responsibilities. Key deliverables in this phase include the Execution Plan, the Project Financial Statement and the Project Issues List.

- **Execution Plan** – this contains all activities that must be accomplished during project execution to deliver the solution for the client. Each activity is identified by a task, owner and start/end dates. This plan is reviewed frequently as the project progresses with a focus on task dependencies, project critical path and successful "on-time" and "within-budget" execution of work activities.

- **Project Financial Statement** – as the project progresses, the financial statement for a given project must be updated with all purchase order, receipts and payment information.

- **Issues list** – this contains all issues and outstanding decisions. Each open issue is identified by a brief description, an owner and the date needed for issue resolution. Upon issue closure, the resolution is documented.

**5. Project Closing Phase**

The project closing phase includes confirmation of the completion of all project work (including work activities resulting from change orders), the resolution of all outstanding issues, and verification of project financial closeout (resolution of all commitments and obligations). In this phase all project documentation is finalized and archived. When appropriate, a post-implementation review is undertaken. Key deliverables in this phase include a zero-balanced Project Financial Statement, document archival, and the Project Closure Report with stakeholder concurrence.

- **Project Financial Statement** – the financial statement for a given project must be updated with all purchase order, receipts and payment information. It should reflect zero balance for commitments and obligations.

- **Document Archival** – all PMO project documentation should be archived in the TD-PMO document repository. CAD documents will be archived by the CAD Team Leader. Execution plan will ensure that CM hands-off CAD as-builts to CAD team leader.

- **Project Closure Report** - This is a final report providing a final status and if necessary a "post mortem".

*(Refer to attachment 4 - OIT PMO Project Artifacts Matrix for a summary of the key artifacts for each project phase)*

While not explicitly mentioned in all project phase descriptions (above), for every project phase the following deliverables are to be created/maintained by the PMO in order to ensure project control, coordination and communication:

- **Issues list** – this contains all issues and outstanding decisions. Each open issue is identified by an issue number, a brief description, an owner and the date needed for issue resolution. Upon issue closure, the resolution is documented. At project closure all issues should be closed out with documented resolutions.

- **Meeting/Discussion notes** – documents project meetings typically highlighting discussion items, important agreements, issues identified or resolved, and action items.

- **Project Portfolio Matrix** – as a project progresses, appropriate fields are populated and/or updated to provide up-to-date "snapshot" information.

## V. Project Management Process Model

*(Refer to attachment 5 – OIT PMO Project Management Process Model).*

The Project Management Process Model is depicted as a "waterfall" process with activities occurring as a serial chain of dependent events. This depiction allows ease of understanding. In reality, however, there will be projects where the process will not follow a precise "waterfall" pattern. When necessary, in order to ensure agility and flexibility, there can be project phase overlap, concurrent or unsequenced events and exception processing. It is left to the judgment of each project team to assess the degree of process variation necessary for a given project. It is the responsibility of the PMO to authorize and manage any process variation.

### 1. Project Initiating Phase

**Step 1:** client request for project work is received by the PMO or OIT partner group; NOC ticket is created

**Step 2:** PMO Team-lead assigns a project manager and project number. PMO Team-lead sends notification to OIT partners. Project manager schedules an initial assessment (kickoff) meeting. Construction Manager and Voice Field Manager are assigned by Network Installation team-lead. For RU Facilities-led projects, the PM requests Facilities design documents and provides to the TD CAD team.

**Step 3:** Initial assessment/pre-planning meeting with client and necessary stakeholders takes place. PM documents Project Charter with Statement of Work (high level functional requirements). PM creates high level plan/timeline with "explosion" of upcoming project planning phase. PM creates initial issues list. PM documents pre-planning meeting(s) with meeting notes. If requested a Preliminary Budget Estimate (PBA) may be provided to RU Facilities. If requested a Preliminary Proposal may be provided to the requesting client. (Preliminary budget and proposal may also be provided later in the planning phase)

**Step 4:** Preliminary work is done (i.e. site survey, CAD, external services). If aux services are involved a quote and invoice will be presented to the client upfront for this anticipated preliminary work (any work anticipated prior to proposal acceptance). The client LOI provides a funds commitment. The client IPO provides funds to the PMO account.

**2. Project Planning Phase**

**Step 5:** Detailed assessment and requirements definition with client and other necessary stakeholders takes place. PM updates Project Charter with Scope of Work (detailed functional requirements). Meeting notes are generated. Issues list is updated. Project plan is updated.

**Step 6:** OIT partners perform technical design work. If necessary, PM ensures stakeholder engagement and facilitates meetings. OIT partners provide integrated technical design/specification documentation to PM. If appropriate, the PM schedules a design review meeting with TD/OIT partners and other necessary stakeholders. CAD process commences *(see Attachment 6: CAD Process)*.

**Step 7:** OIT partners request quotes from subcontractors. PM receives all necessary quotes from OIT partners. PM develops project budget based on quotes.

**Step 8:** PM generates Project Proposal (using as input: project charter, technical design, project budget, project plan). PM provides Project Proposal to OIT partners for internal review. If necessary, PM schedules an internal review meeting. If necessary, proposal is updated until all TD/OIT stakeholders concur. Final proposal is "signed off" by TD/OIT partners. *(Refer to attachment 3 – OIT PMO Proposal Development Flow).*

**Step 9:** Proposal is forwarded to client. If necessary, a review meeting is scheduled. If necessary, proposal is updated and steps 8, 9 are repeated until client sign-off.

**3. Project Funding Phase**

**Step 10:** Client accepts and signs-off on proposal. Client provides letter of intent to move forward. Client prepares to secure funds and generates the IPO. PMO notifies OIT partners.

**Step 11:** Preliminary work can begin. Aux services can be billed against project account after client LOI is received, prior to receiving funds from client.

**Step 12:** PMO Team-lead receives funds via RIAS. PMO Team-lead notifies PM and OIT stakeholders. PM schedules necessary meeting/discussion to move forward. PM creates and/or updates Project Financial Statement with funds requested and received.

**4. Project Executing Phase**

**Step 13:** PM compiles/develops detailed execution plan in partnership with OIT partners. PM updates high level plan if necessary. PM socializes plan with client and other stakeholders.

**Step 14:** PM notifies Admin for purchase requisition creation. Requisitions are created by TD Admin and approved by PMO Team-lead and/or TD Director. PO's are issued to service providers. PM updates Project Financial Statement with PO information.

**Step 15:** Execution Plan is executed. OIT Partners implement the project solution. PM monitors and tracks project work against plan until work is completed. PM provides meeting notes, issues list updates, project plan updates and project status updates to stakeholders. PM updates Project Financial Statement with PO and payment information.

**Step 16:** If necessary, PM coordinates change order processing resulting from functional or technical requirement changes (If any OIT Partner becomes aware of a change order request, this should be communicated to the PM as soon as possible. Work needed as a result of a change order should not go forward until the PM is notified). Client approves and provides funds for change request. PMO team lead receives funds via RIAS. If necessary PM updates Project Charter, Proposal, Budget, Plan/timeline. If necessary OIT partners update Technical Design. PM updates Project Financial Statement (PO's, Payments, Receipts).

**5. Project Closing Phase**

**Step 17:** PM verifies project completion; obtains OIT partner, client and other stakeholder concurrence.

**Step 18:** PM finalizes and archives project documentation

**Step 19:** PM performs financial close-out. PM provides final updates to Project Financial Statement, ensures project balance is zero (all commitments and obligations resolved) and all payments are processed.

**Step 20:** If necessary, PM conducts post-implementation review. PM issues final Project Status Update (Notification) or, if necessary, a more detailed Project Closure Report.

**VI. Attachments:**

1. OIT PMO Stakeholders Context Diagram
2. OIT PMO Project Management Process Lifecycle
3. OIT PMO Proposal Development Model
4. OIT PMO Project Artifacts Matrix
5. OIT PMO Project Management Process Model
6. CAD Process Flow Diagram

## VII. Templates

1. Project Charter
2. Project Plan
3. Execution Plan
4. Project Technical Design/Specification
5. Project Budget
6. Preliminary Budget Analysis (PBA)
7. Project Proposal
8. Client Letter of Intent (LOI)
9. Change Order Request Form
10. SmartNet Agreement
11. Wireless Service Agreement
12. TD Overview
13. Project Financial Statement
14. Issues List
15. Meeting Notes
16. Project Status Update (Notification) Form
17. Project Closure Report
18. Project Portfolio Matrix
19. IPO Tracking Matrix
20. PO Tracking Matrix
21. Project Portfolio Status Report
22. Project Status Report