WaTech
Washington Technology Solutions

WaTech Best Practices Summary

June 2024

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Executive summary

The 2023-25 operating budget provides funding to WaTech for master-level information technology (IT) project management partners (PMPs) to provide critical support, consultation and advice to agency projects under WaTech oversight.

In the last reporting period, Project Management Partners supported 50 projects including major efforts such as the One Washington and Integrated Eligibility and Enrollment programs.

The WaTech Best Practices Summary Report:

- Highlights WaTech's efforts to share best practices and lessons learned in project management through a range of activities including planning agile projects, creating effective project organizations and incorporating usability testing.
- Describes a survey WaTech used to gather valuable input from the Project Management Community of Practice (CoP).
- Summarizes topics from CoP events over the past several months and upcoming events.
- Discusses WaTech's involvement in advisory engagements, including steering committee meetings and presentations to other departments and programs.
- Highlights WaTech's past and present commitment to incorporating best practices into project kickoffs and offering continuous support for projects. The aim is to establish a strong foundation for project success and develop mitigation strategies based on real-world experiences.
- In summary, WaTech's dedication to knowledge sharing, training, and community engagement underscores its commitment to improving project management practices and ultimately enhancing the success of IT projects across the state.

The reporting period for this edition of the report is November 2023 through May 2024.

Best practices

Some of the most impactful best practices shared by Project Management Partners (PMP) with Washington state agency projects in this reporting period include:

- Agile vs. Waterfall – Part 1: A False Dichotomy
- Project vs. Agency Organizational Structure – Part 1: Why Does it Matter and Why Should I Care?

Best Practice: Agile vs. Waterfall – Part 1: A False Dichotomy

The days of all projects only being "waterfall" are gone. The appetite, and value, to wait months or even years just to get the first glimpse of what the software solution looks like is decreasing rapidly. In addition, the urgency to make every project agile is increased by the current state budget bill, section 701, that mandates projects "use an agile development model," hold live demonstrations of functioning software at the end of two-week sprints and deploy usable functionality into production for users within 180 days from a signed contract.

This means "pure agile" projects are the way to go, right? Yes…kind of.

Projects, including agile ones, still face significant challenges:

- Software projects are canceled before completion.
- Communication breakdowns lead to project failure.
- Many software projects miss deadlines and exceed their original cost estimates.
- The absence of a formal software development process hinders project success.
- Team structure issues undermine project outcomes.

While there are a few root cause issues contributing to these statistics, one commonly observed issue is projects ignoring, and even throwing out every historical approach, tool, and method in favor of "only using things that are agile." This limits our PM toolbox, hurts our projects, and isn't what the Agile Alliance intended when they created the Agile Manifesto back in 2001.

In short, a project manager today needs to ask themselves "what is the **best** tool, process, or approach for **this situation**, with **this team**, for **this project**, **right now**?" The answer to this question is often "use a blend of agile and waterfall elements, or a hybrid approach."

Background

To explore what this means, let's revisit the agile manifesto values.

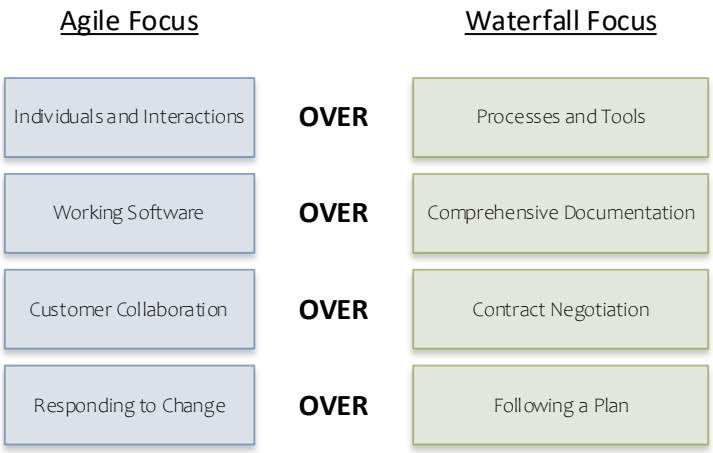

Figure 1: Agile Manifesto Values

The operative term in the graphic above is "over." In our effort to "go all-in" on agile, we can easily and unintentionally replace the word "over" with "instead of." This means that we could act on the agile values as if they read "working software instead of comprehensive documentation" or "responding to change instead of following a plan." This could yield potentially disastrous results.

As an example, **the Agile Manifesto's intent was never to eliminate planning or documentation to achieve working software**. Instead, it was to break down the barriers of a traditional waterfall approach (among other things). Put another way, it was applying a different approach to avoid doing 12 months of planning just to have that plan completely fall apart as soon as execution began, leading to costly replanning and false starts.

The solution

When we plan and manage our projects, we must repeatedly ask ourselves "what is the best tool, process, or approach for this situation, with this team, for this project, right now?" Overall, pushing things toward an agile approach is the right way to go. But more specifically, it needs to be tailored to the specific team and specific project being done. Sometimes certain waterfall practices, tools, and techniques may serve the project best in combination with an agile approach. This is what is meant by a hybrid methodology or approach.

So instead of a binary choice (all or nothing) between the left and right side, we should think of it as an analog "slider" between the two as shown below:

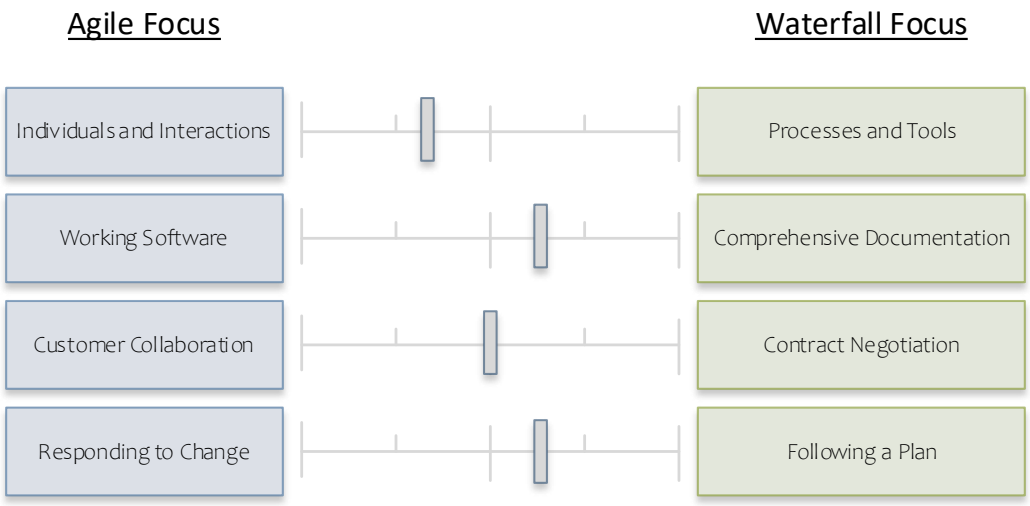

Figure 2: Agile Manifesto Values on a Scale

To assess if different components should be more agile vs waterfall, or where your sliders should land, some questions to ask are:

1. How complex is the integration of the new solution with existing systems? Examples include:
    a. Standalone solution, no integration required.
    b. Highly complex integration with numerous legacy systems, fragile interfaces, or poorly documented systems.
2. How complex is the project team structure and geography? Examples include:
    a. Small, co-located team within the same building.
    b. Very large, highly distributed team from multiple agencies, spanning several continents.
3. What is the skillset and background of the team? Examples include:
    a. Very experienced and well-versed in agile practices.
    b. Some exposure but limited experience in applying agile to interdependent project work.
    c. Brand new to agile practices.
4. How many vendors are involved in the project? Examples include:
    a. No external vendors, project handled entirely inhouse.
    b. Numerous vendors, each with their own contracts, requiring extensive coordination and management.
5. How flexible is the project budget and timeline? Examples include:
    a. Highly flexible, no strict constraints on budget or timeline.
    b. No flexibility, with an immovable budget and timeline dictated by external factors or constraints)

The answers to these questions will drive us to select the appropriate tools and methods to use. We can then ask:

- How should we use our project schedule? How detailed should we make the schedule? How do we align the schedule to our Program Increments (PI) and scrum outcomes?
- Will our product backlog and scrum backlog (and associated scrums) drive just our new solution configuration work, or all the project work (legacy system remediation, business process reengineering, organizational change management, etc.)?
- What level of documentation will we need? Will we lean on user story and the associated acceptance criteria to develop test cases, or will more comprehensive documentation be required?

For smaller projects each of these questions can be evaluated at the overall project level using our sliding scale. However, for larger projects we will break it out into the major components of the project.

For instance, let's say we had a large project implementing a new solution for all state agencies. This will impact a significant number of the state's legacy systems and business processes across multiple agencies. So, in evaluating a project this large, we'll break it out into the major components of the project. For this example, let's use:

1. Configuration of the new software solution.
2. Remediation of the legacy systems impacted by the implementation of the new software solution.

Example 1 - Configuration of the new software solution

This part of the project is focused on configuration a configurable-off-the-shelf (COTS) solution led by a vendor system integrator (SI) and a team consisting of state staff and vendor staff. We will shift our sliders predominantly left to leverage agile principles to define and configure the new solution to meet the needs of the state. However, given that funding is tied to specific milestones, a vendor contract with defined deliverables, and downstream impacts (namely the impacted legacy systems) we can't go completely left. So, our sliders may look something like:

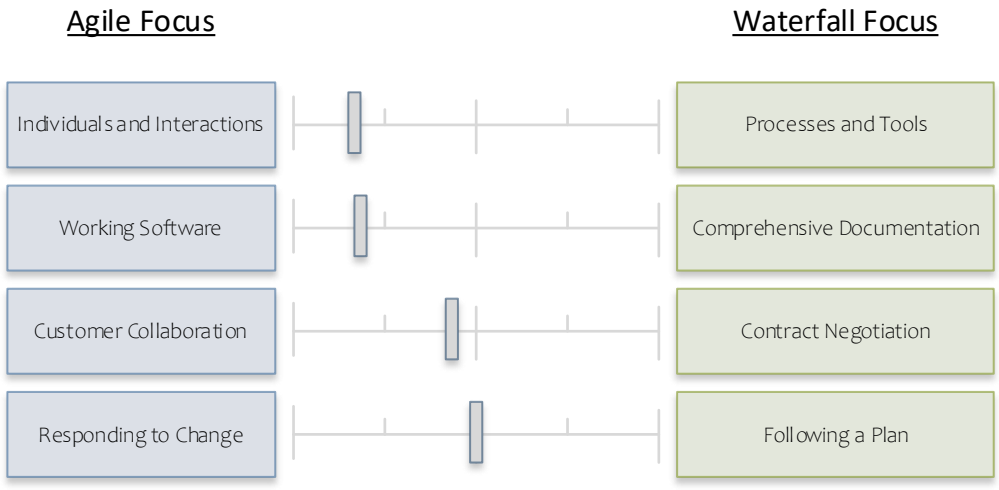

Figure 3: Agile Scale for Example 1

This focuses the project on elaborating user stories, building and managing the product and scrum backlogs, and driving to configure those user stories in the solution while the team participates and learns the solution as the configuration unfolds. It also prioritizes regular team interactions and quick responses to changes. However, the project will still maintain a schedule of detailed tasks to ensure that milestones will be met, and the work remains on target to fulfil the commitment made to the authorizing entities. Lastly the project will determine the best method to document how the new solution works to allow for other impacted systems and business processes to be remediated and updated correctly.

Example 2 - Remediation of the legacy systems impacted by the implementation of the new software solution

At some point in the project, the new solution will have completed functionality to a point that will allow the impacted legacy systems to be remediated to work with the new solution. Many of the legacy systems:

- Are supported by a team with very limited time.
- Do not have dedicated environments for testing and development.
- Are vendor-supported systems requiring a contract for making changes.
- Are fragile "home-grown" systems that cannot sustain frequent changes over a short period of time.

For this part of the project, we will need more documentation to allow detailed data interface specifications and other things to be documented to make the appropriate changes. Our sliders may look more like:

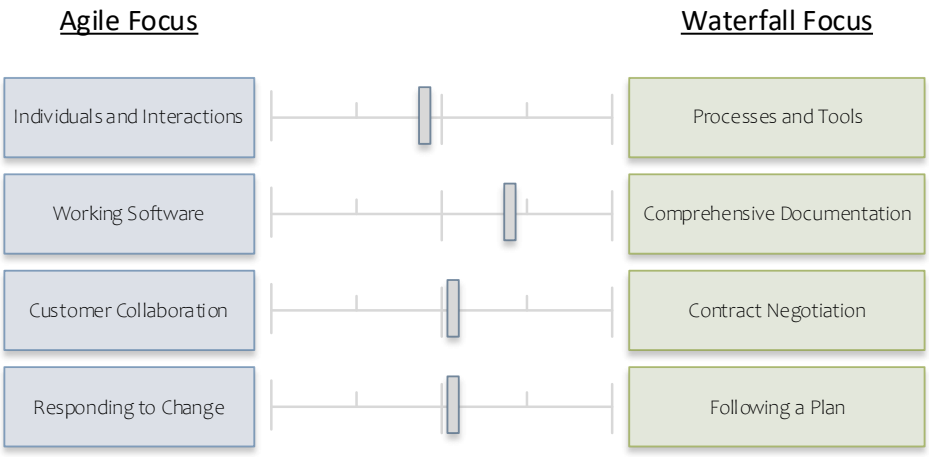

Figure 4: Agile Scale for Example 2

In summary, the key to successful project management lies in understanding that the choice between agile and waterfall methodologies is not a binary one. By carefully evaluating the unique characteristics of each project, such as integration complexity, team structure, vendor involvement, and budget and timeline flexibility, project managers can develop a customized hybrid approach that incorporates elements of both agile and waterfall frameworks. This tailored approach allows teams to leverage the benefits of agile, such as adaptability and collaboration, while also incorporating the structure and planning of waterfall when necessary. By embracing a more nuanced and context-dependent approach

to project management, we can improve our chances of delivering successful software projects on time and within budget.

Best Practice: Project vs. Agency Organizational Structure – Part 1: Why Does it Matter and Why Should I Care?

An agency's organizational structure is tailored specifically to the agency's operations to support the long-term vision. Roles and responsibilities are aligned to the repeatable tasks and activities the agency needs to accomplish over a long-term period (years and even decades). The focus is on repeatable processes and continuous improvement of those processes over time.

A project, by definition, is a temporary endeavor, and while many last multiple years, the intent is to drive the work to achieve the project objectives and transition the result to an operational state as quickly (with a high level of quality) as possible. Therefore, a project's organizational structure is structured to achieve project success in the most effective way possible.

Problems arise when the lines "blur" between the agency organizational chart (and its associated responsibilities) and the project organizational chart:

- Competing priorities are assigned to team members.
- Conflicting instructions from different leaders.
- People are assigned project roles they do not have the skills or experience for.
- Missed deadlines and schedule delays.
- Key personnel are overallocated.

If left uncorrected this can result in project failure, people burnout, and loss of key personnel. To mitigate this possibility, it is vital to clearly define and delineate the project roles from agency roles. Once defined, special care to align everyone involved (project personnel, agency supervisors, agency managers, agency peers) is critical for success. This could include one-on-one conversations, group conversations with opportunities for questions to be answered, RACI charts, and documented organizational charts, and roles and responsibilities.

An Example of Shared Resources between Agency and Project

The following organization charts show that Hoa Nguyen is the Payroll Workstream Lead on the project and works for Payroll as part of the agency. For the project, Hoa reports to Jane Smith. For the agency, Hoa reports to the Agency Payroll Manager.

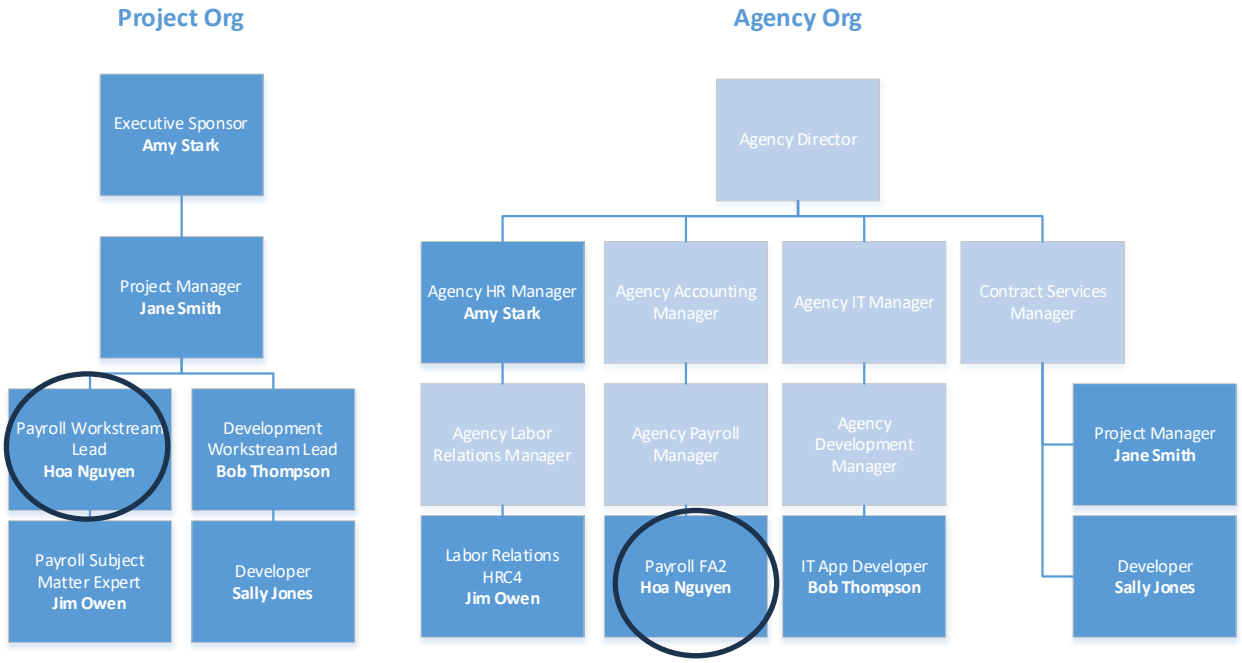

Figure 5: Project and Agency Organizational Chart

In this example, there is not one single source overseeing all the work that Hoa is being tasked with between her organizational manager and her project lead. Hoa is assigned competing work, and her organization manager ranks the project work at a lower priority than Hoa's project manager. Hoa is overwhelmed, missing deadlines for both the project and organizational work, and Hoa's work satisfaction is not high. Both the project and organization are at risk for Hoa being overtasked with competing priorities.

How do we fix this?

Leadership needs to be on the lookout to mitigate and avoid this "blurring." To ensure alignment and maintain project progress:

- Project team members should be assigned project roles based on their skills, knowledge, and experience, rather than their agency position.
- The project manager should have the authority to direct the project team's work and prioritize tasks based on the project plan and objectives.
- If concerns or conflicts arise, they should be addressed through direct communication between

the project manager, workstream leads and employee's organizational manager.

- Organizational managers should defer to the project manager for project-related decisions and priorities.
- Regular monitoring of team member allocations and workloads should be conducted to prevent overallocation and burnout.
- The project manager should work with the organizational manager (and vice versa) to ensure team members have a balanced workload between project and operational duties.

Additional examples

As noted in the example above, there are more people than just Bob affected by having roles in both the project and in the agency organizational structure, including outside contractors hired to be on the project. The table below lists the details for each named person on the organizational charts.

Person	Project Role	Agency Role	% of time allocated to the project	
Amy Stark	Executive Sponsor	Agency HR Manager	10%	
Jane Smith	Project Manager		100%	Outside contractor
Hoa Nguyen	Payroll Workstream Lead	Payroll FA2	50%	
Jim Owen	Payroll Subject Matter Expert	Labor Relations HRC4	100%	
Bob Thompson	Development Workstream Lead	IT App Developer	50%	
Sally Jones	Developer		100%	Outside contractor

Here are some additional issues that can arise from this scenario:

Issue: Project team members are assigned competing or incorrect priorities.

Background: Jim Owen is assigned to the project 100%. The Agency Labor Relations Manager is his organizational manager and as such is still responsible for Jim's performance assessments, ensuring Jim attends agency training, etc. The Agency Labor Relations Manager is not part of the project team. Hoa Nguyen is Jim's Workstream Lead on the project and will direct his work to support the project schedule.

Example 1

Hoa directs Jim to work on "Project Deliverable A", but Jim's agency supervisor directs Jim to work on "Project Deliverable Z."

Impact: Given that the Agency Labor Relations Manager is Jim's direct supervisor Jim must work on "Project Deliverable Z," which is not the correct order or priority for the project. This causes "Project Deliverable A" to be late and this delays the project critical path. In addition, Hoa feels "bypassed" and must reallocate work to other project team members or take on that work herself.

Resolution: The Agency Labor Relations Manager defers to Hoa as the Workstream Lead on the project. If the Agency Labor Relations Manager has a concern about the priority based on observations or feedback from Jim, the Agency Labor Relations Manager will discuss with Hoa and/or the Project Manager (Jane Smith) directly instead of redirecting Jim's work.

Example 2

Hoa directs Jim to work on "Project Deliverable A" but Amy Stark, the project Executive Sponsor and Jim's agency manager directs him to focus on "Project Deliverable Z." Given Amy's familiarity and direct involvement with the project Amy decides to redirect Jim's work in an agency HR meeting with the HR team.

Impact: Since Amy is Jim's supervisor's boss and the project Executive Sponsor, Jim must work on "Project Deliverable Z," which is not the correct order or priority for the project. This causes "Project Deliverable A" to be late and this delays the project critical path. In addition, the Project Manager and Hoa feel "overruled" and must reallocate work to other project team members.

Resolution: Amy defers to Jane (Project Manager) and Hoa as the Workstream Lead on the project. If Amy has a concern about the priority based on observations or feedback from Jim, Amy will discuss with Jane (Project Manager) directly instead of redirecting Jim's work.

Issue: A person is assigned a project role based on their agency job title instead of their skillset.

Example 3

While building the project org chart, Bob Thompson's supervisor, the Agency Development Manager, is assigned the project role of "Development Workstream Lead." This decision is made since that person is the manager at the agency level. However, the project's "Development Workstream Lead" role requires in-depth development knowledge of the agency's current financial systems, which this individual does not have. Bob, however, works directly with these systems.

Impact: The work and knowledge the project requires is not available because Bob must support additional activities while his supervisor is working on the project. Bob is the only one with the appropriate knowledge and is now asked to support the project (and his supervisor) in addition to his agency operational duties. This causes Bob additional stress and hours, and Bob is considering leaving the agency.

Resolution: Bob is assigned the "Development Workstream Lead" role on the project aligned with his skillset, knowledge, and experience.

Example 4

While building the project org chart the Agency Accounting Manager is assigned as "Project Lead" and has Hoa and Bob reporting to them on the project. A contract Project Manager is hired and reports to the Agency Accounting Manager in their "Project Lead" role. This was done to prevent any agency employee from "reporting to" a contractor. So, the project org chart looks like:

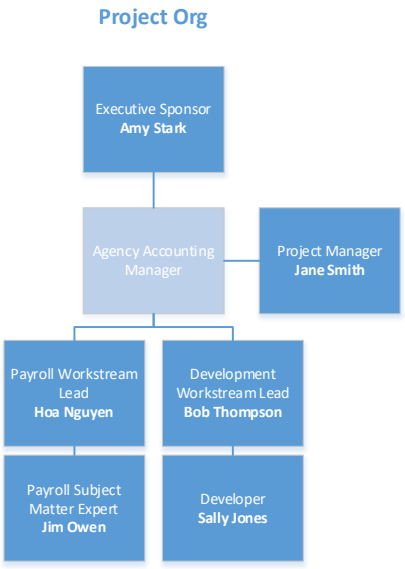

Figure 6: Project Org Chart

Impact: The ability of the contracted Project Manager to plan, manage, and direct the project is significant reduced by having to route all direction to the team through an individual that is not responsible, nor experienced at leading a project as a project manager. Project team members question Jane's direction, and the project progress slows considerably. Jane pursues other opportunities given she cannot perform her role.

Resolution: Jane has directed the project team's work on the project, and Jane reports to the Executive Sponsor per the project charter and project management plan (and the project org chart as shown on page 10). Jane is not anyone's organizational supervisor. Each employee's supervisor is responsible for performance assessments, training, etc. on behalf of the agency.

Issue: Key project personnel are overallocated.

Example 5

Hoa is allocated to the project for 50% of her time and the remaining 50% is focused on her agency operational duties. As part of the project, she is working 20 hours a week, but her agency operational duties are taking 30 hours a week due to unforeseen demands. This means Hoa on average is working 50 hours a week. Neither the project manager nor Hoa's supervisor (the Agency Payroll Manager) are aware of this overallocation given that total activities are difficult to assess and track.

Impact: Hoa is nearing burnout and considering moving to another agency.

Resolution: Jane (Project Manager) and the Agency Payroll Manager work directly with Hoa to evaluate the actual work done and the projected work to ensure expectations are aligned and Hoa does not get overallocated.

Project management lessons learned

The IT Project Lessons Learned is a repository of knowledge for project managers. It provides a tool for project managers and other project stakeholders to learn from the experiences of others to help reduce project risk. The repository is searchable by project type, project phase and category.

Categories include:

- Agency readiness.
- Communications and stakeholder management.
- Cost management.
- Executive sponsorship and governance.
- Implementation approach and methodology.
- Organizational change management.
- Procurement, contract, and vendor management.
- Project management and project controls.
- Project team and human resource management.
- Schedule management.
- Scope management.

Lesson learned example – Timing of usability testing

A recent case study from the Project Management Partners (PMP) provides a key "lesson learned" on the value of usability testing before the system design is complete.

Usability testing is defined broadly as a type of testing to evaluate how easily users can accomplish a task with the product (e.g., is the system easy to navigate).

What happened

A project team was building a dashboard to visually display the adoption and utilization of services among specific populations:

- The bulk of the design and build work for the dashboard was completed in the December timeframe. Subsequently, a user experience (UX) contractor was hired to conduct usability testing of the dashboard product.
- The UX firm reviewed the dashboard using several evaluation criteria such as: meets users' needs; flexible and efficient to use; easy to understand; helps recover from errors, etc.
- The UX firm uncovered several issues, including those that prevent users from accomplishing their goal with the product (e.g., website components are not responsive on smaller screens).
- The agency's development team has been working on resolving these issues.
- Unfortunately, based on the technical approach adopted for the solution, in many cases, the issues cannot be fixed or there is not enough time or budget to fix the issues by the go-live date.

Lessons learned

- Usability testing early and throughout the process is critical to ensure users' needs are met.
- Early usability testing on a prototype can be used to improve the product when it's simpler to

make changes to the design specifications.

- Accessibility needs can be accounted for and incorporated into the solution.
- Usability testing should be part of the project's scope and budget.

Templates

Current templates

Previously published projects templates are located on the WaTech's IT Projects page. These include:

- Business Case
- Feasibility Study
- Staffing Plan
- Project Team RACI Matrix
- Project Initiation Checklist
- Project Management Plan
- Benefits Realization Plan
- OCM and Communications Workbook
- Organizational Change Management
- Communications Management Plan
- Risk and Issue Management Plan
- Kickoff Meeting Agenda
- Deliverables Register
- Project Status Report
- Status Meeting Agenda
- Project Change Management Plan
- Project Change Request Form
- Project Change Request Log
- RAID Log
- Issue Impact Analysis Form
- Post Implementation Review Report
- Closeout Checklist

Project Charter Template

A new Project Charter Template (published in April 2024) is furnished by WaTech to help agency project teams complete a project charter. Its purpose is to increase the quality and consistency of project charters.

Projects under oversight are required to follow the PM-01-02-S IT Project Charter Standard. The template helps project teams adhere to the standard. It includes sections for each requirement in the standard, along with text boxes that give context for each section, including:

- Project overview (Project description, business problem statement, and scope).
- Project team (Organizational chart, and roles and responsibilities).

- Summary Schedule/Timeline.
- Key deliverables (D) and milestones (M).
- Key performance indicators/metrics.
- Budget information.
- Major risks, assumptions, constraints and dependencies.

Cost Benefit Analysis guide and template

Project teams frequently must consider alternatives when deciding on a solution (e.g., commercial off-the-shelf software versus custom build). A frequently asked question when considering those alternatives is: How will costs and benefits change under the proposed set of circumstances? The outcome of a cost-benefit analysis (CBA) is intended to answer that question.

The project management partners published two documents to help project teams complete a cost-benefit analysis:

- Cost Benefit Analysis Guide, which includes:
    - An approach for conducting a CBA, including detailed steps.
    - How to calculate net present value (NPV) and description of why NPV is considered a better CBA measure than internal rate of return (IRR) or payback period.
    - How to estimate benefits, both qualitative and quantitative.
    - An approach for assigning scores to qualitative benefits.
    - Sample categories for grouping
    - costs and benefits.
- Cost Benefit Analysis Template
    - MS Excel workbook template.
    - Includes formulas for calculating NPV.

Project Management Community of Practice

The statewide IT Project Management Community of Practice (CoP) was established in early 2021. The CoP is guided by an engaged advisory board that consists of five members representing five different agencies across the state of Washington. It was created to promote a network of peers and foster the exchange of lessons learned, best practices and resources to drive IT project success.

Today, community membership has grown to over 280 individuals representing 36 state agencies. During this period, the CoP continued adding value through template development, training and community surveys.

Community survey

The PM CoP members completed a survey in 2024 indicating a desire for monthly informal chats on a variety of topics, in addition to quarterly events.

Based on the survey results, the CoP established two primary types of recurring events to support the community:

- Quarterly lunch-and-learn events - Structured lecture-style events with a presenter or panel, creating an opportunity to engage and educate in a traditional manner.
- Monthly coffee chats – Shorter, more informal meetings with a set topic. These guided chats allow for more input, discussion, and interaction with attendees and subject matter experts on the topic.

Topics of interest (from survey respondents) include:

- Agile project management
    - New agile requirements to meet Section 701 rules.
    - Agile project management on non-software development projects.
    - Effective management of an agile project.
    - Agile tools and sprint management in a non-traditional project
- Deliverables
    - Deliverables and gate certification.
    - How to choose which deliverable to document.
    - How to set up deliverables when project has variable scope.
- Project management challenges
    - Understanding the role of oversight.
    - Lessons learned around procurement, timelines and rules, and vendor management, etc.
    - Considerations at the beginning of a project.
    - Committing to a schedule or an end date in an agile environment.
    - Managing teams remotely.
- Project prioritizations and resource capacity planning

- Business process redesign
- Lean methodology

Presentations and trainings

Based on the CoP survey, the CoP offered community support through a variety of presentations and training sessions.

Presentations and training sessions offered during the reporting period include:

- Coffee Chat - Deliverables (January 17, 2024).
- Coffee Chat - RFP best practices (February 7, 2024).
- Lunch & Learn – Agile project management (February 21, 2024).
- Coffee Chat – Oversight as a project success enabler (March 6, 2024).
- Coffee Chat – Investment intake and tiering (April 2024).
- Coffee Chat – Best Practices as an IT Project Manager (May 2024).
- Peer networking event (May 2024).
- Coffee Chat – Committing to a project schedule and end date in Agile (June 2024).

The Washington State Project Management CoP web page includes links to past and future presentations and training sessions.

PMP engagement with projects

Project kickoffs and operations

WaTech and its project management partners (PMPs) maintained their commitment to incorporating best practices into project kickoff meetings. Moreover, PMPs have taken on a pivotal role in offering continuous counsel and support for some of the most significant state projects to date. The aim is to lay a robust groundwork for project success from the very beginning and formulate mitigation strategies based on valuable real-world experiences.

Advisory engagements

In many projects and programs under oversight, WaTech oversight is a standard agenda item during steering committee meetings. This agenda item is dedicated to the presentation of risks identified by WaTech and the sharing of project management best practices. The team of oversight consultants and PMPs who are assigned to these projects actively engage in various meetings and committees, offering their insights and consultations throughout the project lifecycle.

WaTech has taken the initiative to present valuable insights and knowledge to key stakeholders. These include presentations made to other departments and programs. During these presentations, WaTech shared observations and lessons learned from large-scale programs and projects that span across the enterprise. This knowledge exchange aids in promoting a culture of continuous learning/improvement and informed decision making.

Addendum

This section contains supplemental information for the WaTech Best Practices Summary Report.

Contact

Questions regarding this report can be directed to OCIOConsultants@watech.wa.gov.

Archived reports

Prior reports are published on WaTech's website on the Reports and Documents page. Prior videos and published material can be found on the IT Project Resources page under the "Project Resources" and "Whitepapers" headings.

Report authorization

Section 153(1)(b) of the 2024 Supplemental Budget directs the PMPs to:

> Consider statewide best practices from the public and private sectors, independent review and analysis, vendor management, budget and timing quality assurance and other support of current or past IT projects in at least Washington state and share these with agency IT stakeholders and legislative fiscal staff at least twice annually and post these to the statewide IT dashboard.