

# **Evaluating and Building Portfolio Management Maturity<sup>1</sup>**

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## **Executive Summary**

This paper focuses on implementation of portfolio management process in a Federal program. It introduces a maturity model designed to evaluate and track portfolio management capability at the U.S. Census Bureau. The authors used their collective experience implementing portfolio management in Federal Programs to inform the paper and create the model.

The model evaluates and tracks the following program maturity characteristics:

- The portfolio management process maturity levels;
- The levels of strategic planning practiced;
- The level of organizational acceptance for the portfolio management processes.

Important topics that emerged from the development of this maturity model were the definition of portfolio management characteristics, the value of strategic planning to the portfolio management process, and the importance of organizational acceptance in the success of implementing a new process.

## **Portfolio Management in a Federal Agency**

Portfolio management is an important tool to support the fiscal accountability and transparency of government programs. The portfolio management process allows programs to select and prioritize projects that are essential to supporting important government programs. These programs and agencies work within defined budgets, with the focus being on achieving program objectives, followed by adhering to rigid standards and established protocols. Typically, agency budget authority lies with Congress and not within the organization (agency divisions and directorates). This uncertain budget environment increases the need for portfolio management.

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<sup>1</sup> *Second Editions are previously published papers that have continued relevance in today's project management world, or which were originally published in conference proceedings or in a language other than English. Original publication acknowledged; authors retain copyright. This paper was originally presented at the [3<sup>rd</sup> annual University of Maryland Project Management Symposium in College Park, Maryland, USA in May 2016](#). It is republished here with the permission of the authors and conference organizers.*

<sup>2</sup> *This paper is released to inform interested parties of ongoing operations and to encourage discussion of work in progress. Any views expressed on operational issues are those of the authors and not necessarily those of the U.S. Census Bureau.*

Portfolio management aids governments programs by managing limited funds and ensuring that mission critical processes remain effective and up-to-date. It also helps government programs identify projects they should cancel or re-prioritize. Portfolio management also increases stakeholder engagement, aids in decision-making and tracks project investments throughout their lifecycle. Portfolio management is essential to completing important government work.

## Background

According to MITRE Corporation, a recognized expert in Portfolio Management, “Portfolio Management is a continuous and persistent process that enables decision makers to strategically and operationally manage resources to maximize accomplishment of desired outcomes (e.g. mission results, organizational improvements, enhancement of operational capabilities) within given constraints and constructs such as regulation, interdependent architectures, budgets, concept of operations, technology, and mission threads.” More simply put, portfolio management is “doing the right things” to achieve organizational strategic goals. A portfolio is the complete inventory of investments required to achieve strategic priorities.

At the U.S. Census Bureau, the agency implemented portfolio management at either the directorate or the division level. Characteristic of a large government agency, there was variation in implementation of portfolio management among the different work groups and subsequently, portfolio management in some areas is more mature than in others. Previous presentations by Hostetter et al focused on only one program, the American Community Survey, which was an early adopter of portfolio management within the agency. Now we are interested in taking a broader look at the portfolio management throughout the agency and evaluating the maturity of those processes. Through our experience with the American Community Survey and other programs, we now have a better idea of what would be key indicators of portfolio management maturity at the agency. As a natural step, we would like to apply that knowledge to evaluate the portfolio management capability across the different work groups at the agency, assess their maturity and classify the programs into workable levels.

## Portfolio Management Maturity Model

We developed the Portfolio Management Maturity Model as a tool to evaluate the current portfolio management processes across the agency. The model assesses organizational performance in a structured repeatable format and produces an “apples to apples” evaluation of the different areas. Our intent is for the model to provide the agency the ability to evaluate the strengths and weaknesses in each portfolio management area and produce specific goals to bring each area to an optimized level of performance.

We developed the model by identifying the characteristics



Figure 1. Strategic Management Cycle

of a successful portfolio management process, defining the characteristics at each maturity level, and identifying relevant success criteria and questions for each characteristic and maturity level.

For the levels, we used the five-step SEI Capability Maturity Model (CMM) (Stand-up, Informal, Developing, Managed, Optimized) to conform to established maturity levels. For the model, we developed maturity criteria in three main areas: Process, Strategic Planning and Tracking, and Organizational Acceptance. We based our criteria on the concept that portfolio management is one part of a successful strategic management process and that all the pieces interact and contribute to inform each individual process. Figure 1 shows how portfolio management interacts with the other strategic management processes. We provide details on the five levels of maturity and their criteria on the following pages.

## Maturity Level 1 – Stand-Up

We use the stand-up level to determine if the program area has started implementation of the characteristic criterion we are evaluating. Figure 2 to the right lists the indicators we have specified for each of the three criteria areas. Below, we list the questions we developed to assess the indicators. We designed the questions specifically to find the presence of key process, strategic planning and tracking and acceptance indicators. In this level, we focus on discovering if the program area has begun implementation of the indicators that support a successful portfolio management process and fully expect to find that some programs may have great progress in one indicator area and very little in another.

### Level 1 Process Questions

- Has the program defined the role of the Portfolio Management Governing Board (PMGB)?
- Has the program identified the members of its PMGB?
- Has the program defined its portfolio management process?
- Has the program identified all ongoing investment projects?
- Has the program identified its key investment projects?
- Has the program specified requirements for its investment reviews?
- Has the program identified reporting requirements?
- Has the program specified project documentation standards?
- Does the program have templates for project documentation?

### Level 1 Strategic Planning and Tracking Questions

- Does the program have a Strategic Planning and Tracking process?
- Does the program have measures in place to track key program

Level 1: Stand-up	
Process	PMGB structure and governance are not defined
	PMGB members are not identified
	Portfolio management (Pfm) requirements are not defined
	Existing investment projects are not identified
	Key investment projects are not identified
	Investment review requirements are not identified
	Reporting requirements are not identified
Strategic Planning and Tracking	Little to no project documentation
	No strategic planning process
	No program performance tracking
Organizational Acceptance	Little to no discussion of strategic priorities or strategic projects
	Staff do not communicate ideas for new investments
	Staff do not document or communicate progress on investment projects

Figure 2. Maturity Level 1

performance indicators?  
 Does the program discuss strategic priorities?  
 Has the program identified its strategic priorities?

**Level 1 Organizational Acceptance Questions**

Does staff communicate ideas for new projects to leadership?  
 Does staff complete documentation for investment projects?  
 Does staff report progress on investment projects?

**Maturity Level 2 – Informal**

At the Informal level, we start assessing how mature the program is on our Portfolio Management indicators. We expect to see some activity on the major indicators but do not expect any maturity or regularity of effort. Figure 3 to the right lists the indicators we have specified for each of the three criteria areas. Below, we list the questions we developed to assess the indicators.

**Level 2 Process Questions**

Has the PMGB begun to hold meetings?  
 Has the program educated the PMGB members on their role and the purpose of portfolio management?  
 Do the PMGB members get distracted with the technical/operational details of investment projects?  
 Has the program documented its portfolio management process?  
 Does the program have a formal inventory of its current investment projects?  
 Does the program have a list of new investment?  
 Does the program conduct formal reviews of key investment projects?  
 Do the key investment projects maintain a risk register?  
 Does the PMGB provide guidance to its investment project managers?  
 Has the program specified investment reports?  
 Does the program centrally manage and store project documentation?

**Level 2 Strategic Planning and Tracking Questions**

Has the program completed strategic planning exercises?  
 How long have the performance measures been in place?  
 Do the performance measures align to the strategic priorities?  
 Has the program communicated its strategic priorities to staff?  
 Has the program communicated its strategic priorities to its stakeholders?

Level 2: Informal	
Process	PMGB charter signed, PMGB has met at least once
	PMGB members identified and educated on their roles
	PfM process defined
	Existing investment projects identified, list of investment projects selected
	PMGB has reviewed at least one key investment project
	PMGB provides guidance to investment project managers but does not track results
	PfM reports defined
	Management of PfM documents started, 10%-50% of investment projects are documented
Strategic Planning and Tracking	Leadership engages in strategic planning
	Leadership has performance measures in place
	Leadership identifies strategic priorities and shares with staff
Organizational Acceptance	Staff submit documentation for ongoing investment projects and ideas for new projects
	Staff complete some investment project documentation and provide project status infrequently

Figure 3. Maturity Level 2

**Level 2 Organizational Acceptance Questions**

- Has the program educated staff on how to submit proposals for new investment projects?
- Has the program provided staff templates to use for proposal submission?
- Has the program provided document templates and communicated documentation expectations to staff?
- Has the program educated staff on how to complete investment project documentation?

**Maturity Level 3 – Developing**

At the Developing level, we begin to look for formal processes, finished artifacts and cultural acceptance. We expect to see the establishment of processes and activity occurring on a more regular basis. Figure 4 to the right lists the indicators we have specified for each of the three criteria areas. Below, we list the questions we developed to assess the indicators.

**Level 3 Process Questions**

- What is the frequency of the PMGB meetings?
- Do the PMGB members attend the meetings?
- Do the PMGB members prepare for the meetings?
- Do PMGB members participate in the meetings?
- How often does the program review and update its portfolio management process?
- Has the program evaluated the strategic alignment of its current projects?
- How often does the program review its key investment projects? Do the key investment projects track budget expenditures?
- Does the PMGB assign and track action items to its investment project managers?
- Has the program developed investment reports?
- Does the program have a platform for storing investment project documentation?

**Level 3 Strategic Planning and Tracking Questions**

- Does the program have an up-to-date strategic plan?
- Has the program shared the strategic plan with stakeholders?
- Does leadership have a good understanding of the data going into the performance measures?
- Are the measures updated appropriately (monthly, quarterly, annually)?
- Has the program aligned its investment projects to its strategic priorities?

Level 3: Developing	
Process	PMGB meets infrequently, PMGB governance established
	PMGB members are actively practicing their role
	PfM process developed and documented
	PMGB conducts review of investment project inventory
	PMGB reviews every key investment project at least once per year
	PMGB assigns action items to investment project managers during investment review
	PfM reports developed
Strategic Planning and Tracking	Platform for PfM process developed, 50%-90% of investment projects are documented
	Leadership completes strategic plan and shares with staff and stakeholders
	Leadership tracks and understands program baseline performance
Organizational Acceptance	Leadership aligns investment selection process with strategic priorities
	Staff submit investment proposals as they begin project, begin to submit investment proposals before work begins
	Staff complete documentation for 50-90% of investment projects, project status is updated more frequently

Figure 4. Maturity Level 3

### Level 3 Organizational Acceptance Questions

- Does staff submit new investment project proposals to the PMGB before work on a project begins?
- Has the program educated the staff on how to report progress on investment projects?
- What percent of the investment projects have completed documentation (appropriate to level of progress)?
- What percent of the program's investment projects have current status reported?

### Maturity Level 4 – Managed

At the Managed level, we look for formal processes, finished artifacts and cultural acceptance. At this level, we begin to look for engagement and innovation of the processes. Figure 5 to the right lists the indicators we have specified for each of the three criteria areas. Below, we list the questions we developed to assess the indicators.

#### Level 4 Process Questions

- Does the PMGB meet frequently enough to keep up with workload?
- Do the PMGB members ask probing questions about the strategic value of investment projects?
- Do PMGB members focus on investment project's scope/budget and schedule?
- Is the program's portfolio management documentation up-to-date?
- How often does the program review strategic alignment of its investment projects?
- Does the program have slide templates for investment project managers to complete for the reviews?
- Does the PMGB follow up on action items with its investment project managers?
- Does the program update the investment reports on a regular basis?
- What percent of investment projects meet project documentation standards?

#### Level 4 Strategic Planning and Tracking Questions

- Does the program actively use the strategic plan in its planning activities?
- Does the program use measures to baseline performance and track strategic investment efforts?
- Does the program rank its investment proposals against its strategic priorities?

Level 4: Managed	
Process	PMGB governance integrated, PMGB meets on a regular basis
	PMGB members take the lead on portfolio management
	PfM process functioning and documentation is up to date
	PMGB realigns investment project inventory to strategic priorities once a year
	PMGB reviews key investment projects (as needed)
	PMGB tracks progress on action items from investment reviews
	PfM reports updated on regular basis
	Functional platform for PfM process, 90%-100% of investment projects are documented
Strategic Planning and Tracking	Leadership uses strategic plan for program planning
	Leadership uses performance measures to understand affect of strategic investments
	Leadership uses strategic priorities to guide investment project selection
Organizational Acceptance	Staff submit investment proposals before work begins, staff begin to submit proposals for future work
	Staff complete documentation for 90-100% of investment projects, project status is updated frequently

Figure 5. Maturity Level 4

**Level 4 Organizational Acceptance Questions**

Do staff submit proposals for projects to begin the current year?  
 Do staff submit proposals for projects to begin the next year?  
 How frequently are the project status updated?

**Maturity Level 5 – Optimized**

Finally, at the Optimized level we define what we think would be a highly performing portfolio management process. We expect formal processes, finished artifacts and cultural acceptance in addition to continuous improvement of the processes and full engagement of leadership, the PMGB members and program staff. Figure 6 to the right lists the indicators we have specified for each of the three criteria areas. Below, we list the questions we developed to assess the indicators.

**Level 5 Process Questions**

Does the PMGB review proposals and status reports in a timely manner?  
 Do the PMGB members evaluate and refine the portfolio management process?  
 Does the program continuously improve its portfolio management process?  
 How often does the program review the strategic performance of its investments?  
 Is key investment project information easily available to PMGB members?  
 Are the investment review actions items completed?  
 Are the investment reports automated?  
 Is project documentation easily available to the PMGB members?

**Level 5 Strategic Planning and Tracking Questions**

Does the program regularly refresh its strategic plan?  
 Does the program refresh its performance measures to support new strategic initiatives and program direction?  
 Have the program's efforts realized movement on its strategic priorities?  
 Does the program have measures to track and measure progress on strategic priorities?

**Level 5 Organizational Acceptance Questions**

Do staff submit proposals for projects that are to begin two years out?  
 Are the project status updates automated?

Level 5: Optimized	
Process	PMGB governance integrated and accepted, PMGB meets frequently enough to complete all business
	PMGB members actively refine and improve the portfolio management process
	PfM process updated yearly for continuous improvement
	PMGB realigns investment project inventory to strategic priorities annually, reviews investment performance quarterly
	PMGB has on demand access to status of key investment projects
	Investment review action items completed on schedule
	PMGB has on demand access to PfM reports
Strategic Planning and Tracking	Platform fully supports PfM process, 100% of investment projects are documented
	Leadership updates strategic plan annually, refreshes plan every five years
	Leadership regularly reviews and updates program performance measures
Organizational Acceptance	Leadership's portfolio management "moves the needle" on strategic priorities
	Staff submit proposed investments before work begins and proposals are for future work one to two years out
	Staff complete documentation for 100% of investment projects, project status updates are automated

**Figure 6. Maturity Model Level 5**

## Next Steps

We are at the beginning of our assessment of portfolio management and will continue our work with the model, explore additional criteria for the model, and refine the questions. Our next steps will include:

1. Analyze current practices of selected programs using current model. Understanding that each directorate and division may have different needs and organizational cultures, we would analyze the current portfolio management practices of the selected program using the portfolio maturity model.
2. Develop an Implementation Scorecard. We will use the scorecard to document portfolio management maturity scores for programs. Results from the scorecards will help the programs improve their performance and identify areas needing improvement or reassessment.
3. Grade selected agency programs. We will approach programs throughout the agency to request completion of the Implementation Scorecard.
4. Interpret model results. We will conduct an evaluation of the models results after the Implementation Scorecards and grade them to assess how well the identified criteria accurately assess the programs.
5. Revise the model. After we evaluate current criteria, we will revise the model based on analysis results. The current model is a good starting point but as we better understand how the agency programs conduct portfolio management, our vision is to refine the model by adding additional criteria. Areas to consider for the future criteria include:
  - Project schedules
  - Project Server—(A recently implemented enterprise portfolio management tool to track project resources and costs).
  - Risk assessment
  - Schedule management
6. Continue to seek out portfolio management training opportunities and share them at the enterprise level with appropriate staff.
7. Continue to monitor portfolio management corporate culture at the agency. Portfolio management requires commitment by senior leadership. Senior management shared 10 Guiding Change Principles for success in achieving the goals in the agency Strategic Plan which included a statement that work will be managed through the portfolio management governance process.
8. Review the portfolio management roles of the program management offices developed recently under reorganization to understand how they are they supporting portfolio management at the agency.
9. Continue discussions of strategic management, including portfolio management with the appropriate agency stakeholders.
10. Support the principles of continuous process improvement and identification of best practices to mature and refine agency portfolio management practices.

## Appendix: Project Portfolio Management Maturity Model

Organizational Acceptance	Strategic Planning and Tracking	Process															
Staff do not document or communicate progress on investment projects	Staff do not communicate ideas for new investments	PMGB structure and governance are not defined	PMGB members are not identified	Portfolio management (PFM) requirements are not defined	Existing investment projects are not identified	Key investment projects are not identified	Investment review requirements are not identified	Reporting requirements are not identified	Little to no project documentation	No strategic planning process	No program performance tracking	Little to no discussion of strategic priorities or strategic projects	Level 1: Stand-up	Level 2: Informal	Level 3: Developing	Level 4: Managed	Level 5: Optimized
Staff complete some investment project documentation and provide project status infrequently	Staff submit documentation for ongoing investment projects and ideas for new projects	PMGB charter signed, PMGB has met at least once	PMGB members identified and educated on their roles	PFM process defined	Existing investment projects identified, list of investment projects selected	PMGB has reviewed at least one key investment project	PMGB provides guidance to investment project managers but does not track results	PFM reports defined	Management of PFM documents started, 10%-50% of investment projects are documented	Leadership engages in strategic planning	Leadership has performance measures in place	Leadership identifies strategic priorities and shares with staff	Level 2: Informal	Level 3: Developing	Level 4: Managed	Level 5: Optimized	
Staff complete documentation for 50-90% of investment projects, project status is updated more frequently	Staff submit investment proposals as they begin project, begin to submit investment proposals before work begins	PMGB meets infrequently, PMGB governance established	PMGB members are actively practicing their role	PFM process developed and documented	PMGB conducts review of investment project inventory	PMGB reviews every key investment project at least once per year	PMGB assigns action items to investment project managers during investment review	PFM reports developed	Platform for PFM process developed, 50%-90% of investment projects are documented	Leadership completes strategic plan and shares with staff and stakeholders	Leadership tracks and understands program baseline performance	Leadership aligns investment selection process with strategic priorities	Level 3: Developing	Level 4: Managed	Level 5: Optimized		
Staff complete documentation for 50-100% of investment projects, project status is updated frequently	Staff submit investment proposals before work begins, staff begin to submit proposals for future work	PMGB governance integrated, PMGB meets on a regular basis	PMGB members take the lead on portfolio management	PFM process functioning and documentation is up to date	PMGB realigns investment portfolio to strategic priorities once a year	PMGB reviews key investment projects (as needed)	PMGB tracks progress on action items from investment reviews	PFM reports updated on regular basis	Functional platform for PFM process, 90%-100% of investment projects are documented	Leadership uses strategic plan for program planning	Leadership uses performance measures to understand affect of strategic investments	Leadership uses strategic priorities to guide investment project selection	Level 4: Managed	Level 5: Optimized	Level 5: Optimized		
Staff complete documentation for 100% of investment projects, project status updates are automated	Staff submit proposed investments before work begins and proposals are for future work one to two years out	PMGB governance integrated and accepted, PMGB meets frequently enough to complete all business	PMGB members actively refine and improve the portfolio management process	PFM process updated yearly for continuous improvement	PMGB realigns investment project inventory to strategic priorities annually, reviews investment performance quarterly	PMGB has on demand access to status of key investment projects	Investment review action items completed on schedule	PMGB has on demand access to PFM reports	Platform fully supports PFM process, 100% of investment projects are documented	Leadership updates strategic plan annually, refreshes plan every five years	Leadership regularly reviews and updates program performance measures	Leadership's portfolio management moves the needle on strategic priorities	Level 5: Optimized	Level 5: Optimized	Level 5: Optimized		

## About the Authors



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