

## Building *Your* Project Management Center of Excellence

**Introduction:** Projects, projects everywhere .... Some are successful, some fail. In retrospect most have had some room for improvement. Even experienced project managers and project teams need assistance from time to time. A Project Management Center of Excellence is a proven organizational resource that ensures better performance through consistent processes, intellectual capital, tools and hands-on support.

This paper provides overview guidance for establishing and tailoring your organization's Project Management Center of Excellence (PM-COE)

**Motivation:** The expected results from having a Project Management Center of Excellence are two-fold: There's the general improvement of project performance and there's the specific avoidance of the disastrous project, one where cost, timeliness, quality and / or customer satisfaction are not achieved.

**Definitions:** Let's begin by trying to define a PM-COE. This is no easy task as terminology in this domain is not well established and / or ambiguous. Many organizations use similar terms to denote different things. Consider the following set of definitions. These are not sacrosanct. Your organization may use different terms, but for the sake of clarity here is a singular set of definitions.

**Project** – a temporary endeavor undertaken to create a unique product or service. Temporary means that every project has a definite beginning and a definite end<sup>1</sup>.

**Program** – an interdependent group of projects.

**Project Manager** – the person responsible for leading and managing a project and its resources.

**Project Management Office** – (*multiple inconsistent definitions*)

- i. An organization responsible for managing multiple projects.
- ii. An organization that manages a single, complex project.
- iii. An organization that oversees multiple projects and / or project managers.
- iv. An organization that manages cross-project resources.

**Program Management Office** – A Project Management Office-like organization that deals with programs.

**Project Management Center of Excellence** – (*multiple definitions*)

The Project Management Center of Excellence (PM-COE) may perform various mission-critical functions. The needs, and thus the definitions may vary among organizations.

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<sup>1</sup> PMBOK – The Project Management Book of Knowledge – published by the Project Management Institute

- i. The organization that disseminates project related intellectual capital, especially processes, standards, guidelines, templates and tools.
- ii. The organizations the creates, assembles, gathers project related intellectual capital.
- iii. The organization that trains project managers and project participants.
- iv. The organization that provides supervisory oversight for all projects.
- v. The organization that provides key experts to support key project activities.
- vi. All of the above.

These definitions are somewhat overlapping and are not actionable. They provide only a general framework. In building *your* PM-COE you need to tailor the various project-related organizations to meet your needs. In general consider the following:

**Project / Program Management Office (PMO)** – a line organization that rides herd over projects.

**Program Management Center of Excellence (PM-COE)** – a staff organization that supports projects.

The PMO and PM-COE work as partners in achieving project success. This paper focuses on building the PM-COE. The four steps to building your PM-COE follow:

1. Understand PM-COE Project-related Intellectual Capital.  
Understand PM-COE capabilities mapped to the project lifecycle.
2. Work with you stakeholders to articulate goals and objectives and measures.
3. Build your team and organize your PM-COE
4. Develop PM-COE action plans and continuously monitor your performance via feedback and measurement

## 1a. PM-COE Project-related Intellectual Capital.

A first look at the PM-COE should focus on the Intellectual Capital that is associated with the PM-COE. The following definitions will be useful in our discussion<sup>2</sup>:

### Definitions

**Principle:** A fundamental truth, rule of conduct or law upon which others are based.

**Guideline:** A guideline is (1) actionable (i.e. it recommends, or recommends against, an action to be taken) and (2) authorized by consensus. Guidelines are not set in stone and should be treated with common sense and the occasional exception.

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<sup>2</sup> Gathered and crafted by Thomas V. Maslyk, an IBM colleague.

**Policy:** Governing principles that apply to the management of the business. A policy is similar to a guideline, only more official and less likely to have exceptions. One should not generally edit policy without seeking consensus first.

**Rule:** An authoritative regulation, law or established practice by which conduct, methods and procedures are controlled in alignment with stated policies and/or principles.

**Process:** A central and organized way of doing things, generally following certain policies or guidelines (e.g. the "deletion policy" tells us how the "deletion process" works).

**Methodology:** A disciplined accumulation of the above.

### Examples

#### **Processes, Standards and Guidelines.**

There are two parallel tracks here. One track deals with the project management aspects of projects and the other track deals with the technical aspects of projects. These two domains must be instantiated as a compatible pair within each project. The project management component is reasonably similar across multiple project domains. The technical domain, however, will be domain specific. Three examples are listed below :

##### *Project Management Domain*

- **Project Management Processes, Process Standards and Process Guidelines** (PMPSG) – this is basically a how-to manage and execute projects within your organization. It may be an instantiation of the PMBOK at an operational level of detail. There may be various “flavors” of the PMPSG tailored to project the size and complexity, and / or to specific project or organizational domains (new development, legacy maintenance, internal systems, etc.)

A key thread here is process. The PM-COE is maintains a strong process focus, producing a Project Management Methodology.

##### *Technical Domain*

- **Software Development Lifecycle Standards and Guidelines** – this provides a detailed description of the approved software lifecycle(s) within your organization.
- **New Product Introduction Guidelines** – these provide the detailed corporate processes for introducing a new product to the marketplace.
- **Plant Design and Build Engineering Standard** – these provides the detailed engineering process for designing and building a specific type of plant – for example: a chemical processing plant, a parts manufacturing plant, a product packaging plant.

It is important to understand that the Project Management and Technical domain are distinct. Both must coexist as compatible pairs within each project. In addition consider:

- **Measurement Guidelines** – what gets measured gets managed, what gets mis-measured gets mismanaged. Measurement guidelines leading to a comprehensive measurement program are vital to project success.
- **Status Reporting Requirements Guidelines** – the frequency and detail of project status reporting needs to be clearly defined. One of the many benefits of the PM-COE’s process focus is consistency which enables meaningful status reporting. Thus, for example, when a project reports that it is 25% through with unit testing this has a consistent meaning.
- **Project Review Policies and Guidelines** – formal project review policies and guidelines indicate when and how project reviews are conducted and evaluated.

### **Courses, Mentoring, Certification**

Processes are of little use if they cannot be followed. Thus they must be wrapped in various vehicles to facilitate their proper application. The PM-COE may provide these vehicles and may require Project Managers and others to meet certain minimum certification standards.

### **Work Breakdown Structure Prototypes**

Prototypical Work Breakdown Structures (WBS) may be provided as starting points for project planning. These may cover the full lifecycle or focus on specific activities such as Requirements Gathering or Testing.

### **Templates and Guidelines**

Work Product Templates provide detailed examples of required outputs. (Note: A work product is any output produced by a project. It is distinguished from a “deliverable” which is a work product that is provided to the customer.) Work products are associated with the Work Breakdown Structure.

### **Tools and Infrastructure**

The PM-COE selects, approves and / or provides enabling tools in support of projects. Tool domain examples include: Project Scheduling, Configuration Management, Issue Management, Requirements Management, Testing.

### **Formal (Resource) Support**

As we will see below the PM-COE may provide resources for critical tasks within the project lifecycle.

## **Project Quality Assurance**

Independent Project Quality Assurance (PQA) is vital to the good health of projects. The PQA responsibility may exist within a separate organization or as part of PM-COE. Regardless of its organization location, PQA must interface with PM-COE review functions.

## **Project Review**

The PM-COE may conduct Project Reviews in keeping with the Project Review Policies and Guidelines.

## **Post Project Review**

Post project reviews are an ideal vehicle for gathering lessons learned and for evaluating the PM-COE's intellectual capital. A post project review may identify gaps or shortfalls in intellectual capital which in turn may drive further IC development efforts.

Post project reviews need to be incorporated into the initial project plan. The tendency at the end of a project is to shift focus to the next project. Unless a post project review is included in the project plan and appropriate resources are scheduled, post project reviews are often overlooked.

## **Informal Support and Socialization**

All of us together are smarter than any of us alone. The PM-COE may facilitate the socialization and exchange of ideas among project managers and other specialists via "brown bag lunches", on-line forums, etc.

## **1b. PM-COE and the Project lifecycle.**

By mapping PM-COE activities to the project lifecycle we can gain a useful perspective. Additionally, we need to understand how a PM-COE works in support of and in conjunction with a Project Management Office (PMO.)

As noted above, in practice "Project Management Office" and "Project Management Center of Excellence" are a multiply defined umbrella terms designating some corporate organizations that deal with projects. There is no singular definition that applies across organizations. There are three basic forms and many variations in between. The three basics are:

- (1) a line organization that manages a single (complex) project,
- (2) a line organization that manages or monitors a portfolio of projects

- (3) a staff organization that builds and maintains processes, standards and other project-related intellectual capital used in planning and executing all projects, yet directly manages no projects.

This multiplicity of definitions creates confusion. What is a PMO? How does it differ from a PM-COE? How should we organize and staff this (or these) organizations? Is the PMO and / or PM-COE doing a good job?

To explore the PMO and the PM-COE we must consider a wide spectrum of project-related functionality. Let's begin by reviewing the common project lifecycle related functions that may or may not fall within a PMO / PM-COE responsibility. There are three major function categories: managing project operations, managing project people and managing intellectual capital. At this point in our discussion the distinction between PMO and PM-COE will not be emphasized.

**Managing Project Operations** – Managing the normal planning, execution and support of (one or many) ongoing projects throughout the entire project lifecycle. These functions will include:

- **Project Execution** – managing the day-to-day project lifecycle from some defined initiation point through to a defined completion or hand-off point.
- **Single Project Selective Support** – Planned participation in various critical project support functions.

There may be centralized responsibility for managing certain critical functions. In other organizations responsibility is limited to providing oversight or review. Yet in others responsibilities include providing specialized resources such as Subject Matter Experts (SMEs) to perform or augment the performance of critical project lifecycle functions. Typically the focus will be on the following critical lifecycle functions:

- Pursuit (getting the business.) In a consulting or contracting environment this may include responding to requests for proposal (RFPs.) Internally, this may include selected (or rejecting), and prioritizing would-be projects.
- Estimation.
- Funding and approval.
- Project Planning. This may include facilitating Project Planning Workshops – facilitated sessions for key project stakeholders to strategize and tailor the project approach and the project execution plan.
- Risk mitigation planning.
- Change control.
- Issue management.
- Architecture and design.
- System integration.

- Quality assurance – performing various quality reviews at project gates.
  - Test planning.
  - Training – Training all project participants possibly to include participants from other entities (including the customer organization.)
  - Status reporting.
  - After Action Reviews – conducting AARs to gather experience gained during the just completed project.
- **Multiple / cross-project support – (Also called “Project Portfolio Management.”)**

Since there may be multiple concurrent projects, there may be a need to perform functions that span or involve trade-offs among multiple projects or a portfolio or projects. Here is a typical list of such functions.

- Resource allocation – allocating resources among the suite of projects.
- Status tracking – tracking status of all active projects. This may include building a Status Reporting Framework.
- Parachuting – (unplanned) providing emergency resources or special.

Another benefit of process consistency is that resources can more easily move among projects with minimal down time. The “new” resource can “hit the ground running” with a better understanding of the process that they’ve newly been assigned to.

### **Managing Project People** (Project Managers and other project participants.)

The Project Management Office may have centralized people management functions. These may include *career* oriented management functions such as hiring, promotion, termination, etc., as well as *project* oriented management functions such as:

- Management and assignment of Project Managers to specific projects.
- Management and assignment of all other project participants. (Note: This links to “resource allocation” above.)
- Utilization management – in a consulting environment, the utilization (or billable status) of project participants is closely managed.

### **Managing Intellectual Capital**

Most line PM organizations have no responsibility for managing or sharing Intellectual Capital (IC.) In contrast, some staff organizations focus exclusively on the creation and

management of Intellectual Capital. This creates an interesting dichotomy. There are, of course, organizations that embrace operations, people and IC. Typical IC related functions as shown in Section 1a, above, include:

- Defining processes and establishing process standards. Propagating these.
- Building templates and guidelines. Developing the supporting infrastructure for selecting and using these within projects.
- Creating courseware and other vehicles for disseminating project-related intellectual capital.
- Providing enabling tools for estimation, change management systems, etc.

Here is a sample table depicting a PM organization that focuses on PM Operations:

DRAFT - Do not Distribute



**Figure 1 – PM Function Detail – Sample “Operational” PMO**

<i>FUNCTION</i>	<i>Owning Organization</i>	<i>Single Multi All Proj</i>	<i>Cust visible Y/N</i>	<i>Bill-able Y/N</i>	<i>Utili-zation Y/N</i>	<i>Decisions / Outputs</i>
<b>Managing Project Operations</b>						
<b>Project Execution.</b>						
<b>Single Project Support</b>						
Pursuit	CIO					
Estimation.	PMO	M	Y	N	N	Project Estimate
Funding and approval.	CIO					
Project Planning.	PMO	M	N	Y	Y	Project Plan
Risk mitigation planning.	PMO	M	N	N	Y	Risk Plan
Change control.	IPT					
Issue management.	IPT					
Architecture and design.	IPT					
System integration.	IPT					
Quality assurance	IPT					
Test planning.	IPT					
Training	PMO	M	N	N	Y	Course Selection
Status reporting.	IPT	M		Y		Status Reports
After Action Reviews	CIO					
<b>Multiple project support.</b>						
Resource allocation	PMO	M	N	N	N	Resource Plan
Status tracking	PMO	M	N	N	N	Status Summary
Parachuting	PMO	M				Emergency Action Plan
<b>Managing Project People</b>						
Managing Project Managers	HR					
Managing project participants	HR					
Utilization management	HR					
<b>Managing Intellectual Capital</b>						
Defining processes and standards.	X					
Building templates & guidelines.	X					
Creating courseware	X					
Providing enabling tools	X					

We see in this sample that many project related functions are performed by the individual project team(s.) Human Resources performs all of the people management functions and there is no management of Intellectual Capital.

In addition to providing intellectual Capital (IC) in support of each element in the project lifecycle a PM-COE may (if so chartered) also take an active project role. See figure 2.

**Figure 2 – PM Function Detail – Sample PM-COE participation.**

<i>FUNCTION</i>	<i>Owning Org.</i>	<i>PM-COE Participation</i>
<b>Managing Project Operations</b>		
<b>Project Execution.</b>		
<b>Single Project Support</b>		
Pursuit	CIO	Lead Pursuit Team – support go / no-go decision
Estimation.	IPT	Provide estimation “guru” to “drive” the estimation tool
Funding and approval.	CIO	
Project Planning.	IPT	Review Project Plans – conduct Project Planning Workshop
Risk mitigation planning.	IPT	Provide risk “guru” and / or review risk mitigation plans
Change control.	IPT	
Issue management.	IPT	
Architecture and design.	IPT	Review
System integration.	IPT	
Quality assurance	IPT	Review
Test planning.	IPT	Review
Training	IPT	Provide
Status reporting.	IPT	Active conduit for status reporting
After Action Reviews	X	Conduct / facilitate AARs
<b>Multiple project support.</b>		
Resource allocation	CIO	
Status tracking	CIO	Active conduit for status reporting
Parachuting	CIO	Provide emergency resources as required

**Figure 2 (con't)**

<b>Managing Project People</b>		
Managing Project Managers	HR	
Managing project participants	HR	
Utilization management	CIO	
<b>Managing Intellectual Capital</b>		
Defining processes and standards.	PM-COE	Processes & Standards
Building templates & guidelines.	PM-COE	Templates & Guidelines
Creating courseware	PM-COE	Courseware
Providing enabling tools	PM-COE	Tools

In theory, completing this tableau describing all project-related functions should be sufficient for organizing and allocating functions to appropriate organizations. In practice, this serves as a primary catalyst for discussion to clarify these functions, identify function overlap or conflict, discover functional gaps, etc. Thus building this tableau can serve a useful organizational purpose.

Verify your organizations functional boundaries and its interfaces with the overall organization. Logically, some will assert that this step should come earlier, before the detailed review of functions. In practice, it should wait until the functions are more clearly defined. The final step is to integrate all of the above. Scenario based walk-throughs help accomplish this. For example, walk through several projects by function and review who does what, when. Similarly, walk through an employee's "life cycle." Consider a project-related policy change and, again, walk through how that change gets implemented. It is not uncommon to find that the "actual" process varies from the "as documented" process.

### **The Global PMO**

One final ambiguity that needs mentioning is the term "global." Many projects have taken on global dimensions involving both internal and outsourced teams throughout the world. A distinction needs to be made between a truly global or worldwide team where individuals or sub-teams throughout the world are interacting on a constant basis and a "remote" team – a cohesive, independent team that happens to be located in a distant

location. Both require special care and feeding from the PMO<sup>3</sup> – but these are two distinct scenarios.

## 2. Work with your stakeholders ....

It is vital for the PM-COE to be strongly supported by all organizational stakeholders. This is accomplished via socialization, focus and results.

- **Socialization** – Stakeholders must be part of the PM-COE leadership. Their participation in developing the PM-COE and establishing the Goals and Objectives for the PM-COE assures their feeling a sense of ownership and pride in the PM-COE. Socialization may also determine “hot buttons” that need to be addressed quickly and may also build realistic expectations for the PM-COE.
- **Focus** – The PM-COE must focus on the mutually established, measurable goals and objectives established via socialization and direct inquiry.
- **Results** – The PM-COE pays for itself via measurable results.

## 3. Build your team and organize your PM-COE

### Build your Team

Briefly, the team needs to avoid becoming residents of an “Ivory Tower.” The team should be built from within the Project Management organization and high performing Project Managers should rotate onto the team and / or serve on a PM-COE advisory panel. Additionally, high performing Project Managers should be called upon to review PM-COE deliverables and to co-teach PM-related courses.

Team size is an issue. Ideally the core team should be no more than seven people – I pick this number because it is small enough still to allow everyone to feel ownership and responsibility, small enough for cohesive communication – we can all sit around a lunch table together; yet large enough for a bit of specialization and to bring in varied points of view. In addition to the core team we need to look at the PM-COE support functions. The size of the support component is governed by the size of the overall project management organization, number of and diversity of projects, etc. Support functions include, training and mentoring, a how-to hotline, project status monitoring, managing functional specialists and the like. A large or geographically diverse organization may require an accompanying large or dispersed support infrastructure. Nonetheless the PM-COE should not be in the empire building mode.

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<sup>3</sup> “Leveraging a Worldwide Project Team.” Carl A. Singer, PM Network, Project Management Institute, Inc. April 2001, Volume 15, Number 4.

## **Organization “How to” – an Overview**

As with most endeavors, one size does not fit all. Rather than prescribe a solution, this discussion focuses on how to achieve a well-functioning PM organization within the context of the entire organization.

The first step is to flesh out the above list of functions to include all project-related processes as practiced in *your* environment. “Translate” the above list to your organization’s common terminology. At this step do not fret over who does what – only consider what is done. Or if you are more comfortable with a work product oriented approach, document what is produced.

A simple checklist may be useful. See Figure 1. This checklist should be tailored to the functions and terminology of your organization. As a first pass, tailor the “Function” column then complete only the column “owning organization column.” It is permissible to put in an “X” for functions not done or a “?” for functions whose ownership is uncertain or an “F” for functions that may be added in the future.

The second step is to describe the above functions in more detail. This is frequently done in several passes: First, verify the owning organization: Individual Project Team (IPT), CIO, PMO, PM-COE, etc. Second, complete the matrix – (1) is this function applied on a project by project (single project) basis, to multiple projects, or globally to all projects, (2) is this function visible to the customer, (3) is this function billable and (4) is utilization credit given? A third pass detailing the key decisions or enumerating the major outputs of this function may follow.

Continuously examine all functions of PMO and PM-COE to help determine who does what.

## **4. Develop PM-COE action plans and continuously monitor your performance**

Apropos, building the PM-COE is itself a project. An action-oriented project plan with specific short-term, mid-term and long-term objectives needs to be built. The PM-COE’s performance should be managed accordingly. A most important, must-do action the PM-COE is to continuously ask its stakeholders, “How are we doing?” This reflection of customer satisfaction coupled with formal measurement will help keep the PM-COE on track addressing real opportunities in the project management space.

It should be clear by now that the PM-COE focuses on process. Continuous Process Improvement should be an integral part of the PM-COE. Hopefully, this is “preaching to the choir.”

## Summary

The PM-COE can be a key lever for enabling consistent project success.

### Some Do's and Don'ts

“Rule Lists” abound: 7 rules for running effective meetings, 5 rules for getting along with people, 10 rules for .... The following are PM-COE related observations, not rules – build your own list based on your experiences then tailor it to your environment. You will note that some of these rules may conflict with each other – so be it.

1. Do not let your PM-COE get isolated from the day-to-day issues that impact your project managers – encourage candid communications and cross-pollination.
2. Do not let your PM-COE get so caught up in the day-to-day turmoil that it loses its vision and becomes simply a Project resource pool. (Measure how much time PM-COE actors are spending (fighting fires?) on specific projects versus other activities.)
3. Integrate independent Project Quality Assurance (PQA) into all project plans and all projects.
4. Reach out – do not be a passive “service window” but a proactive agent.
5. Make sure that your PM-COE attacks issues, not people.
6. Do *not* measure your PM-COE based on utilization or other operational metrics – this will lead to bad choices by all. What gets measured gets managed. What gets mismeasured gets mismanaged.
7. Constantly seek feedback, both good and bad. Maintain avenues of communication with all project-related organizations.
8. Don't be a free resource – The savvy project managers will suck the marrow out of any free resource.
9. Rotate a few experienced Project Managers in and out of the PM-COE every few years – the PM-COE should not become a sheltered workshop for tired project managers.
10. Avoid NIH (Not Invented Here) at all costs. Together we are all smarter than any of us alone. The “field” has insights and solutions that are waiting to be harvested.