

# Project Management Framework with reference to PMBOK (PMI)

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# Agenda

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- Context
  - Introduction to Methodologies
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# An Introduction to Methodologies:

*A methodology provides a means for selecting the degree of Management attention appropriate for a particular project*

## What is a Methodology?

- ❑ A methodology is a set of guidelines & principles that can be tailored to a specific situation. It can also be a specific approach, templates, forms and even checklists used over the project lifecycle
- ❑ An effective methodology provides a structure for people with different skills to work together, in a coordinated fashion, toward a common goal. Having the right methodology can make the difference in planning, managing and executing on engagements.
- ❑ Some methodologies are aligned with (and even evolved from) specific project management certification which employees can attain – thus further ensuring that there is a common understanding
- ❑ A methodology typically includes three key components:

#	Component	Definition
1	Processes	Detailed tasks that outline what work needs to be done
2	Roles	Who needs to be involved, with what skill sets
3	Deliverables	How to best capture work results (as you drive toward the ultimate results you'll deliver to others in the organisation)

## Benefits of an Effective Methodology

- Lower the cost / increase margin and profitability of an engagement / transformation programme
- Increase the productivity of project managers & teams
- Improve the consistency of delivery with a common language & a shared vision
- Provides a framework for prioritising actions
- Focus creativity on the business solution, rather than redefining the process to get the work done
- The quality of a system / change programme is highly influenced by the quality of the process used to acquire, develop, and maintain it.

# Evaluating Between Alternatives:

## Methodology Categories

*There are many methodological options available, therefore it is important to assess the suitability of each one*

- There is a wide variety of methodologies in use within the Industry marketplace. Each has a different focus. It is important to consider the suitability of the methodology based on the primary focus on that organisational entity. Typical categories include the following:

#	Type	Definition
1	Project Management	Planning, monitoring and control of all aspects of a project and the motivation of all those involved in it to achieve the project objectives on time and to the specified cost, quality and performance
2	Programme Management	The effective management of several individual but related projects or functional activities in order to produce an overall system that works effectively.
3	Operations Management	The maintenance, control, and improvement of organizational activities that are required to produce goods or services for consumers.
4	Organisational/ Change Management	Seeks to understand the sentiments of the target population and work with them to promote efficient delivery of the change and enthusiastic support for its results.

# Overview of Selected Methodologies

#	Name of Methodology *	Category	Framework, Theory & Guidelines	Tools & Job Aids	Accelerators & Assets	Knowledge Management	Certification	Project Size			Cost
								S	M	L	
1	Accenture Delivery Methods	Programme Mgt, Organisational/Change Management, Operations Mgt	Typically Waterfall	✓	✓	✓	Internal & External link to PMI, 6 Sigma etc				-
2	Ten Step	Project Management	Linear	✓	-	-	Linked to PMP				H
3	PRINCE2	Project Management	Process-based	✓	-	-	Foundation & Practitioner Certification				H
4	Rational Unified Process	Project Management	Iterative	✓	-	-	-				M
5	Systems Development Life Cycle	Project Management	Waterfall	✓	-	-	-				L
6	UPMM	Project Management	Linear	✓	-	-	-				L
7	MPMM	Project Management /Organisational/Change Management	Cycle	✓	-	-	Linked to PRINCE2				M
8	BPR	Operations Management	Process-based	✓	-	-	-				L
9	PMBOK	Project Management	Cycle	✓	-	-	Linked to PMP				M
10	Proscis	Organisational/Change Management	Linear	✓	-	-	Practitioner Certification				M
11	Dynamic Systems Development Method	Project Management	Iterative	✓	-	-	Practitioner Certification				M

# Project Management Payoff Matrix

Business Outcome / Objective

Failure

Success

Why is the discipline of Project Management so Important?

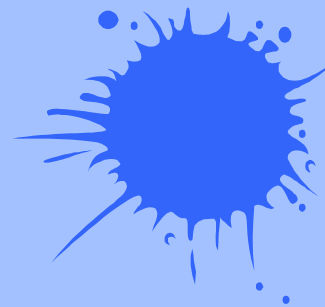
Project Management

Success

*Methodology as a substitute for thinking*

*Systematic  
Repeatable  
Measurable  
Predictable  
Managed risk*

Failure



*Ad hoc  
Unrepeatable  
Unknown risk  
Team burn-out*

# Chapter 1 : About Projects...

- *A **project** is a temporary endeavor undertaken to create a unique product, service or result*
  - Projects are progressively elaborated
  - Has a definite beginning and end
  - The product/service is different in some way from all other products or services.
- **Objective** : Attain the goal of solution and close the project.
- How projects originate or why projects are started?
  - A market demand
  - An organizational need
  - A customer request
  - A technological advance
  - A legal requirement

# Chapter 1 : About Projects...

- **Projects Vs Operations**

<b>PROJECTS</b>	<b>OPERATIONAL WORK</b>
<input type="checkbox"/> Temporary	<input type="checkbox"/> On-going
<input type="checkbox"/> Unique	<input type="checkbox"/> Repetitive
<input type="checkbox"/> Progressive elaboration	<input type="checkbox"/> Continuous
<input type="checkbox"/> Purpose: Attain objective & terminate	<input type="checkbox"/> Purpose: Sustain business

- Note : Application Maintenance activities are not 'projects' in the eyes of PMI  
Managing an operation by project does not make it a project!



# Chapter 1 : Project Management

- **Project Management** is the application of knowledge, skills, tools & techniques to project activities to meet project requirements
- **Triple Constraint** – Scope, Time & Cost are..
  - tightly inter-related that a change to any one of these factors will impact *at least* one other factor
- Get the distinction between Knowledge Areas, Process Groups and Processes very clear!
  - **5 Process Groups** – the areas into which project management activities are categorized
    - Initiating, Planning, Executing, Monitoring & Controlling and Closing
  - **9 Knowledge Areas** - the broad knowledge areas required for project management
    - Integration, Scope, Time, Cost, Quality, Human Resources, Communications, Risk & Procurement
  - **44 Processes** –
    - a set of processes in each process group, each in turn associated with a Knowledge area
    - each process consists of inputs, tools & techniques and outputs
- A project manager should have expertise in General Management skills, Interpersonal skills, Project Management Body of Knowledge (PMBOK), understanding of the project environment & knowledge of relevant standards and regulations
- **Standard Vs Regulation** : *In simple terms it is optional to follow a Standard but mandatory to follow a Regulation!*

# Chapter 2 : Life Cycles

- **Project Life Cycle**

- The way in which (Project Manager, Organization) divide projects into phases for better management control – defines the phases that connect the beginning of a project to its end
- Varies by industry & company & should not be mixed with the process groups!
  - eg: project life cycle for custom development is



Project Phase	High	Low
Beginning	Level of Uncertainty / Stake holder's ability to influence / Risk of failure	Cost of changes
End	Cost of changes	Level of Uncertainty / Stake holder's ability to influence / Risk of failure

- Completion & approval of one or more deliverables characterizes a project phase
- End of a phase are called Phase Exits, Phase Gates, Stage Gates or Kill Points
- **Project Vs Product Life Cycles**
  - Product life cycle typically extends beyond the project life cycle. for e.g.
    - Project life cycle = phases in custom development of an application
    - Product life cycle = Custom development + Ongoing support

# Chapter 2 : Stake holders, Organizational Influences

- Stake holder
  - *Anyone* whose interests may be affected as a result of a project execution or completion
  - Identifying all key stakeholders is of utmost importance for project communications management and ultimately the success of the project
- Organization Structure
  - *Primarily* viewed on the basis of a project manager's authority & role.
  - Other factors are budget & resources
- Types of Organization Structures
  - Functional
  - Matrix (Weak, Balanced, Strong)
  - Projectized

# Chapter 2 : Stake holders, Organizational Influences

- **Project coordinator**
  - A role played by the project “manager” or staff, depending on the type of organization
  - Have more power than Expeditors !
- **Sponsor** – someone who provides the finances for the project
- **Performing Organization** – the enterprise which has the responsibility to execute the work
- **PMO** – Centralized unit to coordinate the management of projects in its domain
- **Project Management Information System (PMIS)** – simply, a system to manage the project with. It need *not* be an IT system. A tool like MS Project is *not* PMIS

# An Introduction - PMBOK Process Groups

## PMI

- Initiating 4%
  - Planning 35.5%
  - Executing 25%
  - Controlling 25.7%
  - Closing 8%
- **Initiating**
    - “Define & Authorize the project or phase”
  - **Planning**
    - “Defining and refining objectives and selecting the best of alternative courses of action to attain the objectives that the project was undertaken to address”
  - **Executing**
    - “Coordinating people and other resources to carry out the plan”
  - **Monitoring and Controlling**
    - “Ensuring that project objectives are met by monitoring and measuring progress regularly to identify variances from the plan so that corrective action can be taken when necessary”
  - **Closing**
    - “Formalizing acceptance of the project or phase and bringing it to an orderly end”

# Chapter 3: Initiating Process Group

- **Initiating Process Group**
  - Defines & authorizes the project or a project phase
  - Project charter is the most important output of Initiation
- **Processes**
  1. Develop Project Charter
    - gives authority to the project manager
    - must be signed by a Senior Manager external to the project
  2. Develop Preliminary Project Scope Statement
    - high level definition of the project using the charter
- Note : Initiation is normally repeated at the end of each phase for review of key deliverables to decide if the project should continue. In a real world we may not produce a charter after each phase but it is important to note that PMI recommends one such

# Chapter 3: Planning Process Group

- Planning Process Group
  - Defining & refining objectives
  - Planning the course of action required to attain the objectives & scope
  - Project management plan is the most important output of planning
- Processes

#	Process	What it is	Key Input	Key Output
1	Develop Project Management Plan	An integral plan containing all subsidiary plans Primary document with which a project is planned, executed, monitored, controlled & closed	Project management processes	Project management plan
2	Scope Planning	Defines <i>how</i> the scope will be managed	Project Charter	Scope Management Plan
3	Scope Definition	Defining the project scope for validation & future decisions	Project Charter, Approved Change Requests	Scope Statement
4	Create WBS	Subdividing the major deliverables into smaller, manageable components	Scope Statement Approved Change Requests	WBS

# Chapter 3: Planning Process Group

#	Process	What it is	Key Input	Key Output
5	Activity Definition	Identifying the activities required to produce the deliverables	WBS	Activity List
6	Activity Sequencing	Identifying & documenting dependencies	Scope Statement Activity List	Network Diagram
7	Activity Resource Estimating	Estimating type & quantities of resources required	Project Management Plan Activity List Resource Availability	Resource Requirements Resource Breakdown Structure
8	Activity Duration Estimating	Estimating the time required to complete each activity	Resource Requirements Activity List Project Management Plan	Activity Duration Estimates
9	Schedule Development	Creating the project schedule	Network diagram Resource Requirements & Calendar Duration Estimates	Project Schedule Schedule baseline
10	Cost Estimating	Developing an approximation of the cost of resources	WBS Project Management Plan	Cost Estimate



# Chapter 3: Planning Process Group

#	Process	What it is	Key Input	Key Output
11	Cost Budgeting	Allocate the estimated costs to individual activities	WBS Cost estimate Project Schedule	Cost Baseline
12	Quality Planning	Identifying the relevant quality standards to use	Organization process assets Project Management Plan	Quality Management Plan
13	Human Resources Planning	Identifying & documenting roles & responsibilities	Organization process assets Project Management Plan	Roles & Responsibilities Staffing Management Plan
14	Communications Planning	Determining the information needs of project stakeholders	Organization process assets Constraints & Assumptions	Communications Management Plan
15	Risk Management Planning	How to approach, plan and execute risk management activities	Scope Statement Project Management Plan	Risk Management Plan
16	Risk Identification	Determining which risks affect the project	Risk Management Plan Organization Process Assets	Risk Register

# Chapter 3: Planning Process Group

#	Process	What it is	Key Input	Key Output
17	Qualitative Risk Analysis	Prioritizing risks for further analysis by assessing probability & impact	Risk Register Risk Management Plan	Updated Risk Register
18	Quantitative Risk Analysis	Numerical analysis of the effect of risks on project objectives	Risk Management Plan Risk Register Cost & Schedule	Updated Risk Register
19	Risk Response Planning	Developing options & actions to enhance opportunities & reduce threats	Risk Management Plan Risk Register	Updated Risk Register Contractual Agreements
20	Plan Purchases & Acquisitions	Determining what to purchase/acquire, when and how	Scope Statement WBS Schedule, Risks & Costs	Procurement Management Plan Statement of Work
21	Plan Contracting	Documenting requirements & identifying potential sellers	Procurement Management Plan Project Management Plan	Procurement Documents

# Chapter 3: Executing Process Group

- Executing Process Group
  - Completing the work defined in the Project Management Plan by coordinating people & resources
  - Addressing scope as per Scope Statement & implementing approved changes
- Processes

#	Process	What it is	Key Input	Key Output
1	Direct & Manage Project Execution	Directing the technical & organization interfaces to execute work	Project Management Plan Approved changes & actions	Deliverables Work Performance Information
2	Perform Quality Assurance	Applying the planned quality activities to ensure requirements are met	Quality Management Plan Metrics & Measures	Requested Changes Recommended Corrective Actions
3	Acquire Project Team	Obtaining the required human resources	RAR Staffing Management Plan	Staff Assignment

# Chapter 3: Executing Process Group

#	Process	What it is	Key Input	Key Output
4	Develop Project Team	Improving the competencies & interaction of team	Staff Assignment Staffing Management Plan	Performance Assessment
5	Information Distribution	Making information available to stakeholders in a timely manner	Communications Management Plan	Updates to Organization Process Assets Requested Changes
6	Request Seller Responses	Obtaining information, quotations, bids, offers or proposals	Procurement Management Plan Procurement Documents	Qualifies Sellers List Proposals
7	Select Sellers	Reviewing offers, choosing & negotiating a contract with the seller	Procurement Management Plan Proposals Evaluation Criteria Risk Register	Contract Contract Management Plan

# Chapter 3: Monitoring & Controlling Process Group

- Monitoring & Controlling Process Group
  - Observing project execution to identify problems and taking timely corrective action
  - Measuring performance, identifying variances for corrective actions
  - Influencing the factors to minimize changes
- Processes

#	Process	What it is	Key Input	Key Output
1	Monitor & Control Project Work	Progress measurement, forecasting & reporting performance on scope, schedule, cost, resources, quality & risk	Project Management Plan Work Performance Information	Recommended preventive & corrective actions Forecast
2	Integrated Change Control	Influencing the factors to minimize changes, determining occurrence of changes & managing them	Requested Changes Recommended preventive & corrective actions Project Management Plan	Approved changes Approved preventive & corrective actions Approved & validated defect repair
3	Scope Verification	Formalizing acceptance of deliverables	Scope Statement Deliverables	Accepted Deliverables Requested Changes

# Chapter 3: Monitoring & Controlling Process Group

#	Process	What it is	Key Input	Key Output
4	Scope Control	Controlling changes to project scope	Scope Statement Scope Management Plan Approved Changes	Updates to Scope Statement, WBS, Project Management Plan
5	Schedule Control	Controlling changes to project schedule	Schedule Baseline Schedule Management Plan Approved Changes	Updates to Schedule, Activities, Project Management Plan
6	Cost Control	Controlling changes to project budget	Cost Baseline Performance Information Approved Changes	Updates to cost baseline & Project Management Plan  Forecasted Completion
7	Perform Quality Control	Monitoring specific results to determine if they comply with the defined quality standards	Quality Management Plan  Metrics  Work Performance Information	Recommended preventive & corrective actions, defect repair  Validated Deliverables

# Chapter 3: Monitoring & Controlling Process Group

#	Process	What it is	Key Input	Key Output
8	Manage Project Team	Tracking team performance, providing feedback, resolving issues & coordinating changes	Staff assignment, RAR Team performance assessment	Recommended preventive & corrective actions
9	Performance Reporting	Collecting & distributing performance information	Performance Information Deliverables Forecasted Completion	Performance Reports
10	Manage Stakeholders	Managing communications to satisfy stakeholder needs & resolve issues	Communications Management Plan	Resolved Issues Approved changes & corrective action
11	Risk Monitoring & Control	Tracking & monitoring risks, executing risk response plans & evaluating effectiveness	Risk Management Plan Risk Register Approved Changes	Updated Risk Register Recommended preventive & corrective actions
12	Contract Administration	Documenting & reviewing seller performance and managing the contract	Contract Contract Management Plan Performance Reports	Recommended corrective actions Updates to Procurement & Contract Management Plans

# Chapter 3: Closing Process Group

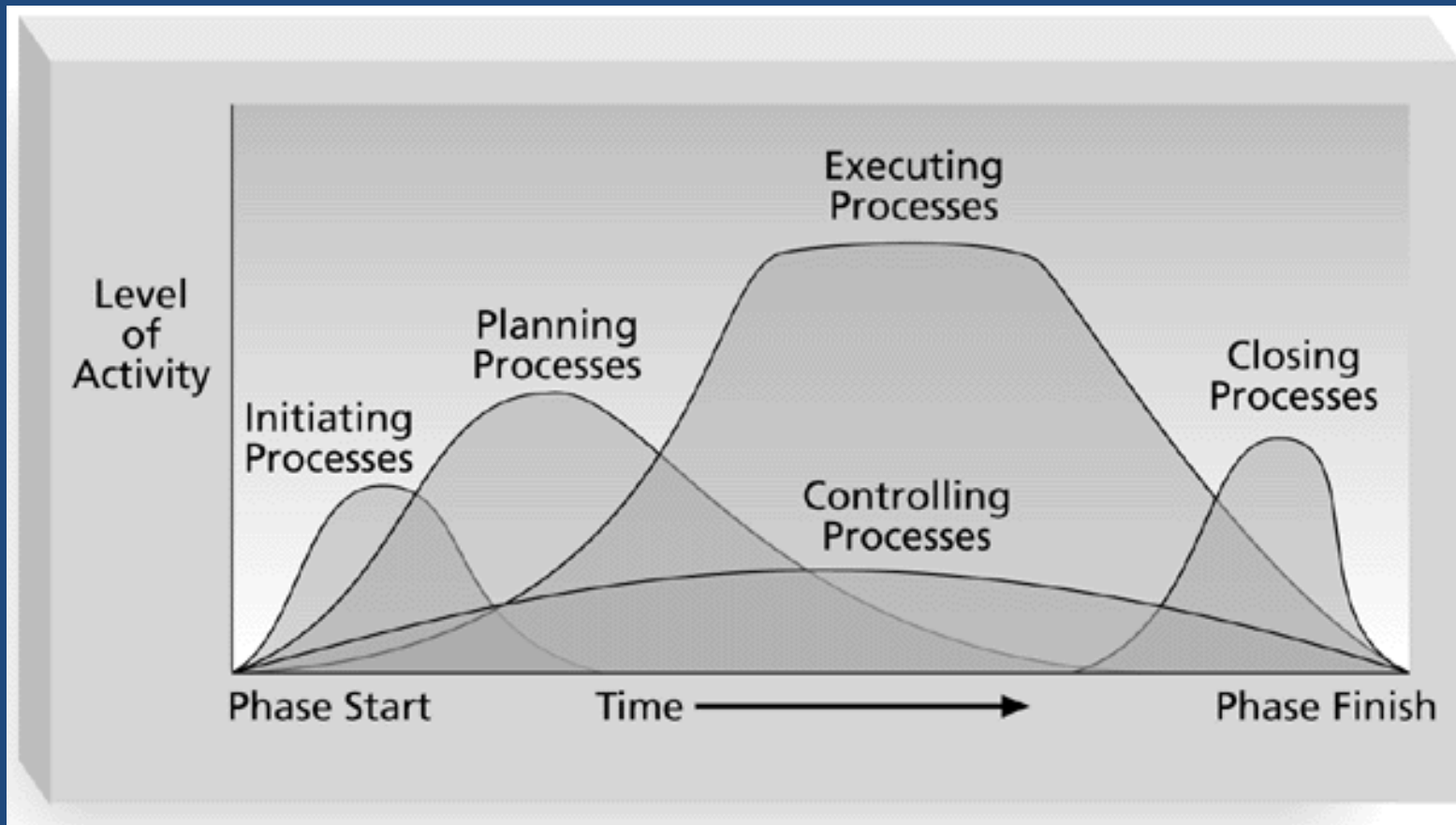
- Closing Process Group
  - Formally terminating all activities of a project phase & handing off the completed product
  - Verifying completion of defined processes & formally establishing completion of a project or phase
- Processes

#	Process	What it is	Key Input	Key Output
1	Close Project	Finalize all activities across process groups to formally close a phase or project	Project Management Plan Work performance information Deliverables	Administrative Closure Final product, service or result Updates to organization process assets
2	Contract Closure	Resolving open items to complete, settle & close each contract	Procurement Management Plan Contract Management Plan	Closed Contracts Updates to organization process assets



# Process Interactions

- Output of one process is generally a deliverable or an input to another process
- Process groups are overlapping activities occurring at various levels of intensity through the project & interact within a phase & may also cross project phases
  - Not all processes are needed for all projects & not all interactions apply to all projects



# Process Mapping Chart

	<u>INITATING</u>	<u>PLANNING</u>	<u>EXECUTING</u>	<u>CONTROLLING</u>	<u>CLOSING</u>
<i>Integration Management</i>		4.1 Project Plan Development	4.2 Project Plan Execution	4.3 Integrated Change Control	
<i>Scope Management</i>	5.1 Initiation	5.2 Scope Planning 5.3 Scope Definition		5.4 Scope Verification 5.5 Scope Change Control	
<i>Time Management</i>		6.1 Activity Definition 6.2 Activity Sequencing 6.3 Activity Duration Estimating 6.4 Schedule Development		6.5 Schedule Control	
<i>Cost Management</i>		7.1 Resource Planning 7.2 Cost Estimating 7.3 Cost Budgeting		7.4 Cost Control	
<i>Quality Management</i>		8.1 Quality Planning	8.2 Quality Assurance	8.3 Quality Control	
<i>Human Resource Management</i>		9.1 Organizational Planning 9.2 Staff Acquisition	9.3 Team Development		
<i>Communications Management</i>		10.1 Communications Planning	10.2 Information Distribution	10.3 Performance Reporting	10.4 Administrative Closure
<i>Risk Management</i>		11.1 Risk Mgmt. Planning 11.2 Risk Identification 11.3 Qualitative Risk Analysis 11.4 Quantitative Risk Analysis 11.5 Risk Response Planning		11.6 Risk Monitoring and Control	
<i>Procurement Management</i>		12.1 Procurement Planning 12.2 Solicitation Planning	12.3 Solicitation 12.4 Source Selection 12.5 Contract Administration		12.6 Contract Closeout

# Project Management Body of Knowledge (PMBOK)



## Training

- PMBOK supports training Project Managers for Project Management Professional (PMP) certification

## Cost Element

- Separate PMBOK guides for each knowledge area may be purchased within a cost range of \$50 - \$300
- Certification of PMBOK professionals training costs between \$550 and \$1800 depending on level

## Brief Description & Overview

The Project Management Body of Knowledge (PMBOK) is a collection of processes and knowledge areas generally accepted as best practice within the project management discipline.

As an internationally recognised standard, it provides the fundamentals of project management irrespective of the type of project (banking, software, change management).

PMBOK deals with the application of knowledge, skills, tools and techniques to meet project requirements. The PMBOK Guide defines a Project Life Cycle, from the initiation of the project to the termination, five Process Groups and nine Knowledge areas of the project management profession including: Integration, Human Resources, Communications, Risks, Procurement and Quality.

## Benefits & Limitations

- It states the knowledge needed to manage the life cycle of any Project, Program and Portfolio through their processes
- Defines a body of knowledge on which any organisation can build it's specific best practices for it's application area
- Defines the necessary input, tools, techniques and deliverables for each process
- Encompasses Project Planning, Quality Assurance, Risk Management & Measurement dimensions
- Complex framework for small projects
- Has to be adapted to the application area industry, project size and scope, time and budget and quality constraints
- Addresses project management without addressing the type of project or directly addressing the larger organisation
- Strict guidelines for acceptance into the PMBOK certification process for individuals