



NEW HAMPSHIRE CHAPTER

*PMBOK Version 5*

*What are the changes all about?*

A Guide to the

**PROJECT MANAGEMENT  
BODY OF KNOWLEDGE  
(PMBOK® GUIDE)**

Fifth Edition

**Chapter Meeting**  
**June 18<sup>th</sup> 2014**

[www.pmi-nh.org](http://www.pmi-nh.org)

PO Box 4496, Portsmouth, NH 03801

# Goals of the Version 5 update included...

*PMI Lexicon of Project Man*

- Ensure harmonization with other PMI Standards.
- Reposition Section 3 (The Standard for Project Management) as a stand-alone ANSI approved standard (Annex A1).
- Describe the principles and processes unique to project management.
- Make sure ***PMI Lexicon*** terminology is used consistently and identically within the PMBOK.

**Program Management.** The application of a program to meet the program requirements available by managing projects individually.

**Program Management Office.** A management program-related governance processes and methodologies, tools, and techniques.

**Progressive Elaboration.** The iterative project management plan as greater information estimates become available.

**Project.** A temporary endeavor undertaken to create a unique result.

**Project Calendar.** A calendar that identifies scheduled activities.

**Project Charter.** A document issued by the sponsor or authority that authorizes the existence of a project and provides the authority to apply organizational resources to project activities.

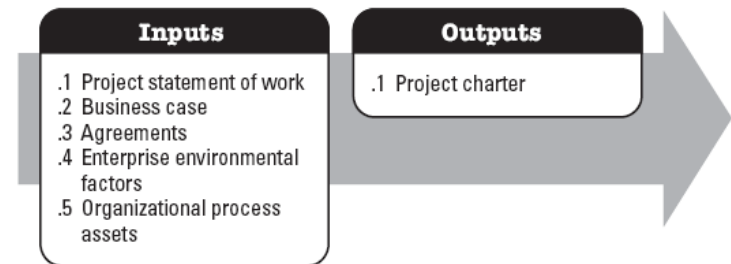
**Project Life Cycle.** The series of phases from project initiation to its closure.

**Project Management.** The application of project management knowledge, skills, tools, and techniques to project activities to meet the project requirements.

**Project Management Office.** A management office that provides the framework, support, and standards for project management within the organization.

# Rules of the Version 5 update included...

- ITTO Rules
  - Inputs are documents *key* to a process and/or **map from another project management process.**
  - Outputs **map to inputs of other processes** unless they are terminal or are included within another input.



- Project Management Plan Rules
  - As *key* Inputs, specific PMP subsidiary plans, baselines are called out; in Control processes, the summary PMP is listed.
  - As outputs, PMP subsidiary plan and baseline updates are grouped as ‘project management plan updates.’

# Rules of the Version 5 update included...

- Project Document Rules
  - As Inputs, major documents are specifically listed; as Outputs, specific documents are listed when created, subsequently they are referred to as Project Document Updates.
- Enterprise Organizational Factors / Organizational Process Assets
  - EEFs (Organizational culture and context) and OPAs (processes, procedures and corporate knowledge databases) are defined in PMBOK Section 2; Process Inputs that include EEFs and OPAs are referenced there for definition.
  - OPA updates as Outputs provide the discrete detail (historical information, lessons learned etc.); EEF updates while rare, propose update documents as well (personnel records, assessments).

# The Project Management Plan changes...

- Four Planning processes added
  - Plan Scope, Plan Schedule, Plan Cost and Plan Stakeholder Management processes. Key outputs of these processes are
    - Scope and Requirements Management Plans
    - Schedule Management Plan
    - Cost Management Plan
    - Stakeholder Management Plan

9 Knowledge Area Plans, 4 'Other' Plans, 3 Baselines

## Project Management Plan

Change Management Plan	Schedule Management Plan	Process Improvement Plan
Configuration Management Plan	Schedule Baseline	Human Resource Management Plan
Scope Management Plan	Cost Management Plan	Communications Management Plan
Scope Baseline	Cost Baseline	Risk Management Plan
Requirements Management Plan	Quality Management Plan	Procurement Management Plan
	Stakeholder Management Plan	

# Work Execution Data and Information Flow

PMBOK Version 5 redefines information flow to improve consistency and add clarity regarding project data and information.

Execution's Direct and Manage Project Work provides:

**Work Performance Data**, observations and measurements flow to each of the knowledge area Control processes.

Monitor and Control's 'Control' processes:

Interprets intrinsic Data in context and becomes outputs, **Work Performance Information** (example schedule or cost performance results into forecasts, estimates to complete). Information becomes an input to Monitor and Control Project Work.

M&C's Monitor and Control Project Work:

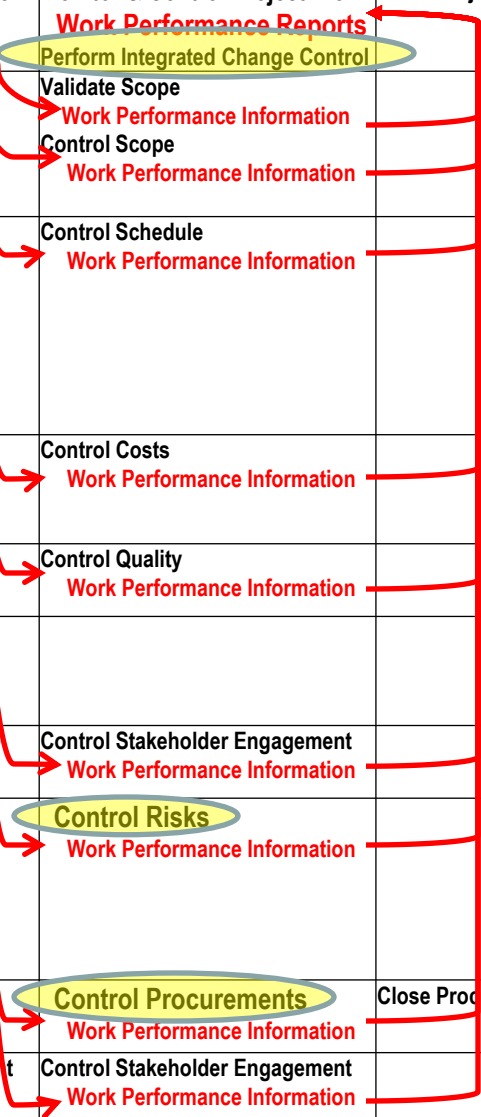
Integrates and compiles the collective control Information into **Work Performance Reports**; generates discussion, raises issues, actions and awareness (examples status reports, justifications, dashboards, recommendations etc.).

Knowledge Areas	Process Groups				
	Initiation	Planning	Execution	Monitor & Control	Closing
Integration Management	Develop Project Charter	Develop Project Management Plan	Direct and Manage Project Work Work Performance Data	Monitor & Control Project Work Work Performance Reports Perform Integrated Change Control	Close Project or Phase
Scope Management				Validate Scope Work Performance Information Control Scope Work Performance Information	
Time Management		Define Activities Sequence Activities Estimate Activity Resources		Control Schedule Work Performance Information	
Cost Management		Determine Budget		Control Costs Work Performance Information	
Quality Management		Plan Quality Management	Perform Quality Assurance	Control Quality Work Performance Information	
Human Resource Management			Acquire Project Team Develop Project Team Manage Project Team		
Communication Management			Manage Communication	Control Stakeholder Engagement Work Performance Information Control Risks Work Performance Information	
Risk Management		Risk Responses			
Procurement Management		Plan Procurement Management	Conduct Procurements	Control Procurements Work Performance Information	Close Procurements
Stakeholder Management	Identify Stakeholders	Plan Stakeholder Management	Manage Stakeholder Engagement	Control Stakeholder Engagement Work Performance Information	

Work Performance Data  
Output of Direct and Manage  
Work is interpreted in the  
Control Processes.

Work Performance Data  
analyzed in context is transformed into  
Work Performance Information.

Work Performance Reports  
the output of Monitor and Control  
Project Work; are the representation  
of Work Performance Information  
compiled to generate decisions,  
actions and awareness.



# New Annex A1

## THE STANDARD FOR PROJECT MANAGEMENT OF A PROJECT

Version 5 of the PMBOK moves *The Standard for Project Management of a Project* from (Section 3, V4) to a standalone Annex A1.

- Section 3 continues as a bridge between Sections 1 & 2 (Introduction to Project Management and Organizational Influences) and the Knowledge Area Sections, 4 thru 13.
- Annex A1 - *'The processes outlined in this Annex... provide the (ISO) standard for project management of a project.'*
  - Process Groups (Initiating, Planning, Execution, Monitoring and Controlling and Closing).
  - The framework, definition and interaction of 47 Project Management Processes.
  - Articulates the Input / Output relationships for each unique Process from Develop Project Charter to Close Project or Phase.



# Process / Knowledge Area Updates

Most process name and/or knowledge area changes improve consistency and add clarity.

Direct and Manage Project <b>Execution</b>	→	Direct and Manage Project <b>Work</b>	
<b>Plan Scope Management</b>	--	added	
<b>Verify</b> Scope	→	<b>Validate</b> Scope	
<b>Plan Schedule Management</b>	--	added	
<b>Plan Cost Management</b>	--	added	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Process name changes</div> <div style="background-color: yellow; padding: 5px;">Process adds</div>
Plan Quality	→	Plan Quality <b>Management</b>	
<b>Perform Quality Control</b>	→	<b>Control</b> Quality	
Develop Human Resource Plan	→	<b>Plan</b> Human Resource <b>Management</b>	
Plan Communications	→	Plan Communications <b>Management</b>	
Distribute Information	→	<b>Manage Communications</b>	
Report Performance	→	<b>Control Communications</b>	
Monitor and Control Risks	→	<b>Control</b> Risks	
Plan Procurements	→	Plan Procurement <b>Management</b>	
<b>Administer</b> Procurements	→	<b>Control</b> Procurements	
Identify Stakeholders	→	<b>Moved to Section 13 (Initiation)</b>	
<b>Plan Stakeholder Management</b>	--	added Section 13 (Planning)	
Manage Stakeholder Expectations	→	moved to Section 13 (Execution) <b>Manage Stakeholder Engagement</b>	
<b>Control Stakeholder Engagement</b>	--	added Section 13 (Monitor and Control)	

# Process / Knowledge Area Updates

## Integration Management

The visible change is the rename of the Execution process to **Direct and Manage Project Work**. It better aligns its definition; it manages and integrates processes in and outside of Execution. Its two primary outputs are ... Deliverables and Work Performance Data.

**Work Performance Data, Information** and ultimately **Reports** are managed and 'integrated' reinforcing the overall goal of this knowledge area. Reports serve as inputs in *managing* the project team, communications, change control, *controlling* risk and procurement as well as in *planning, in* developing the project management plan itself.

# Deliverables have their own path through the process framework.

Knowledge Areas	Initiation	Planning	Execution	Monitor & Control	Closing
Integration Management	Develop Project Charter	Develop Project Management Plan	Direct and Manage Project Work <b>Output: Deliverables</b>	Monitor & Control Project Work Perform Integrated Change Control	Close Project or Phase <b>Output: Final Product, Service or Result Transition</b>
Scope Management		Create WBS		Validate Scope <b>Output: Accepted Deliverables</b> Control Scope	
Time Management		Plan Schedule Management		Control Schedule	
Cost Management				Control Costs	
Quality Management		Plan Quality Management	Perform Quality Assurance	Control Quality <b>Output: Verified Deliverables</b>	
Communication Management				Control Communications	
Risk Management		Identify Risks		Control Risks	
Procurement Management					Close Procurements
Stakeholder Management	Identify Stakeholders				

**Deliverables, an output of Direct and Manage Project Work become an input to Control Quality**

**Inspected in Control Quality for correctness against Requirements, Deliverables are output Verified Deliverables and flow to Validate Scope**

**Verified Deliverables are inspected in Validate Scope; assessed complete, they are output as Accepted Deliverables and become an Input to Close Project or Phase**

**Finally, Accepted Deliverables (Input) become Final Product Service or Result Transition (Output) in Close Project or Phase**

# Process / Knowledge Area Updates

## Scope Management

The added '**Plan Scope Management**' process produces PMP subsidiary **Scope Management Plan** and **Requirements Management Plan**, making it consistent with the rest of knowledge areas. Requirements management planning defines not only how to collect the product requirements but now includes quality and project management requirements critical to the success of the project.

Verify Scope is renamed to **Validate Scope** to produce project deliverables acceptance. Client/sponsor acceptance assures deliverables deliver business value, confirms they meet the project objectives and the project product, service or result that satisfies the stakeholder's intended use.

# Process / Knowledge Area Updates

## Schedule Management

The added '**Plan Schedule Management**' process produces PMP subsidiary **Schedule Management Plan** making it consistent with the rest of knowledge areas. The planning process allows for development of the scheduling model. Process definition has been expanded to allow for Agile scheduling concepts, resource optimization techniques and scheduling concepts.

## Cost Management

The added '**Plan Cost Management**' process produces PMP subsidiary **Cost Management Plan**. Methodologies and the Lexicon align the processes defined with the Practice Standard for Estimating and Practice Standard for Earned Value Management.

Added emphasis is placed on Contingency and Management reserve analysis, and a new summary table for all the formulas of Earned Value calculations is added in one place.

## Earned Value Analysis

Abbreviation	Name	Lexicon Definition	How Used	Equation	Interpretation of Result
CV	Cost Variance	The amount of budget deficit or surplus at a given point in time, expressed as the difference between the earned value and the actual cost.	The difference between the value of work completed to a point in time, usually the data date, and the actual costs to the same point in time.	$CV = EV - AC$	Positive = Under planned cost Neutral = On planned cost Negative = Over planned cost
SV	Schedule Variance	The amount by which the project is ahead or behind the planned delivery date, at a given point in time, expressed as the difference between the earned value and the planned value.	The difference between the work completed to a point in time, usually the data date, and the work planned to be completed to the same point in time.	$SV = EV - PV$	Positive = Ahead of Schedule Neutral = On schedule Negative = Behind Schedule
VAC	Variance at Completion	A projection of the amount of budget deficit or surplus, expressed as the difference between the budget at completion and the estimate at completion.		$BAC - EAC$	Positive = Under planned cost Neutral = On planned cost Negative = Over planned cost
CPI	Cost Performance Index	A measure of the cost efficiency of budgeted resources expressed as the ratio of earned value to actual cost.	A CPI of 1.0 means the project is exactly on budget, that the work actually done so far is exactly the same as the cost so far. Other values show the percentage of how much costs are over or under the budgeted amount for work accomplished.	$CPI = EV/AC$	Greater than 1.0 = Under planned cost Exactly 1.0 = On planned cost Less than 1.0 = Over planned cost
SPI	Schedule Performance Index	A measure of schedule efficiency expressed as the ratio of earned value to planned value.	An SPI of 1.0 means that the project is exactly on schedule, that the work actually done so far is exactly the	$SPI = EV/PV$	Greater than 1.0 = Ahead of schedule Exactly 1.0 = On schedule

### PMBOK V5 Table 7-1

# Process / Knowledge Area Updates

## Quality Management

Plan Quality is renamed to **Plan Quality Management** for consistency, the PMP subsidiary **Quality Management Plan** and **Process Improvement Plan** are its outputs. Perform Quality Control is renamed **Control Quality**.

Quality Tools and Techniques are expanded. Initiate, Plan, Execute, Close, Control (IPECC) and Plan/Do/Check/Act (PDCA) and Cost of Quality (CoQ) models are added to help understand how quality ties into the Collect Requirements process and overall quality planning for projects.

The basic 7 Quality Management Tools are highlighted in the Plan Quality Management process reinforced by graphic illustration.

### Cause & Effect Diagram



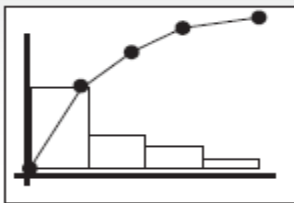
### Flowcharts



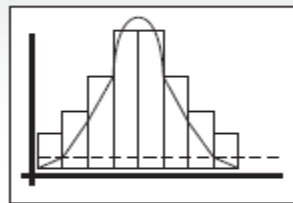
### Checksheets

Category	Strokes	Frequency
Attribute 1		
Attribute 2		
Attribute ...		
Attribute n		

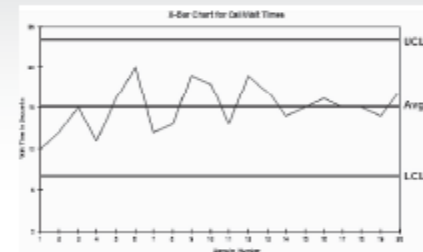
### Pareto Diagrams



### Histograms

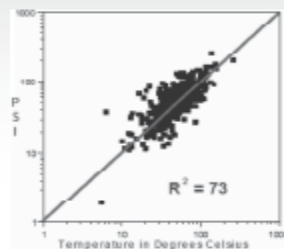


### Control Charts



**PMBOK V5  
Figure 8-7**

### Scatter Diagrams





# Process / Knowledge Area Updates

## Human Resource Management

The Develop Human Resource Management process is renamed **Plan Human Resource Management** for consistency and still produces PMP subsidiary Human Resource Management Plan.

Execution Human Resource processes are for the most part the same as they were in Version 4; some tools and techniques (example Emotional Intelligence and Virtual Teams) that have been changed since 2008 are updated.

# Process / Knowledge Area Updates

## Communications Management

The V4 Communications Management knowledge area is divided into two knowledge areas. Aspects associated with Stakeholder Management added in Section 13 as a new knowledge group. Identify Stakeholders and Manage Stakeholder Expectations are moved to that Section/Area.

Plan Communications is renamed **Plan Communications Management** for consistency and still produces the PMP subsidiary Communications Management Plan.

Distribute Communications is renamed **Manage Communications** and focuses more on the process of communicating as opposed to the desired outcome of the message.

Report Performance, renamed **Control Communications** considers collecting, storing, disseminating and monitoring overall project communications processes to ensure efficiency and effectiveness.

# Process / Knowledge Area Updates

## Risk Management

No significant changes were made to the Risk Management area. Monitor and Control Risk is renamed **Control Risk** for consistency.

The term “opportunity” is emphasized, all but replacing “positive” risk.

The concepts of risk attitude – appetite, tolerance and thresholds have been added and are discussed.

Inputs / outputs were renamed for several of the Risk Management processes to align with project information, data flow and naming rules and conventions. (Example: a significant risk planning process input is the Risk Register, the output, in V5 context, **Project Documents Updates.**)

# Process / Knowledge Area Updates

## Procurement Management

Plan Procurements process is renamed **Plan Procurement Management** for consistency and still produces PMP subsidiary Procurement Management Plan. The Administer Procurements process is renamed **Control Procurement**.

# Process / Knowledge Area Updates

## Stakeholder Management

A new knowledge area, **Stakeholder Management** is added to focus on managing stakeholder expectations to expand upon and increase the focus on the importance of appropriately engaging project stakeholders.

**Identify Stakeholders** is moved from Communications to the Manage Stakeholders knowledge area in the Initiating process group.

**Plan Stakeholder Management** is added as a planning process, and a **Stakeholder Management Plan** is developed.

The execution process Manage Stakeholder Expectations, moved from the Communications knowledge area is renamed to **Manage Stakeholder Engagement**. **Control Stakeholder Engagement** is added as a Monitor and Control process.

# Appendix X3 – Interpersonal Skills

Supporting a variety of areas in PMBOK V5, Interpersonal Skills collects and defines an array of technical, interpersonal and conceptual skills that help Project Managers analyze situations and interact appropriately.

Leadership

Team building

Motivation

Influencing

Political and cultural awareness

Decision Making

Negotiation

Trust building

Conflict Management

Coaching

# The Glossary (changes & inclusions)

Unique terms related to (Project) Scope, Time, and Risk Management 'unique or nearly unique' to project management. (ex. Context Diagram, Control Account, Decomposition, Appetite and Tolerance)

Terms from Quality management, used more narrowly than in their everyday usage. (ex. Attribute sampling, Conformance, Assurance, Simulation)

New terms related to Human Resource, Communications and Stakeholder management. (ex. Constraints, collocation, Resource, Staffing Management Plan)

Fewer terms from Integration, Cost and Procurement since most in these areas have narrow meanings not unique to project management.

Acronyms intrinsic to Project Management Processes. (ex. EVM, EMV, PDM, RAM, SPI, CCB, CPM)

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