Touchpoints between the SCEA Cost Estimating Body of Knowledge (CEBoK) and the Program Management Institute (PMI) Body of Knowledge (PMBoK)

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Overview

▶ Purpose

▶ What is the Project Management Institute (PMI)?

▶ PMBoK® Process Overview

▶ PMBoK® Knowledge Areas Overview

▶ Aligning the CEBoK with PMBoK®

▶ Pursuing a PMI Certification

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Purpose

▸ This paper will provide a basic overview of the Project Management Institute (PMI) Program Management Body of Knowledge (PMBoK®) and identify the touchpoints that exist between the PMBoK and the Cost Estimating Body of Knowledge (CEBoK)

▸ These touchpoints will assist prospective PM certification candidates (focusing on the PMP® certification) in understanding how their specific functional experience "fits in" with a project with a scope beyond cost estimation.

▸ Knowledge of these touchpoints will, at a minimum, increase the collaborative effect of an overall project team by allowing the cost estimator/analyst to lead on the integration of their effort with the larger project team.

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What is the Project Management Institute (PMI)?

▸ PMI is the world's leading not-for-profit membership association for the project management profession, with more than 600,000 members and credential holders in more than 185 countries. Our worldwide advocacy for project management is supported by our globally-recognized standards and credentials, our extensive research program, and our professional development opportunities.

▸ These products and services are the basis of greater recognition and acceptance of project management's successful role in governments, organizations, academia and industries.

▸ PMI developed and maintains the PM Framework as a means of providing a "common view" of projects via the Project Management Body of Knowledge (PMBoK®)

Project management is the application of knowledge, skills and techniques to execute projects effectively and efficiently. It's a strategic competency for organizations, enabling them to tie project results to business goals

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PMBoK® Process Groups Overview

| Initiating	Planning	Executing	Monitoring & Controlling	Closing

▸ Initiating – Formal recognition that the project should begin; resources are committed

▸ Planning – Project objectives, goals and requirements are defined/refined
  – ~50% of overall effort

▸ Executing – Project work actually gets done

▸ Monitoring & Controlling – Project progress is measured, variances identified and corrective actions taken

▸ Closing – Project work is formally accepted and product is "handed off"

The majority of the touchpoints with the CEBoK are in the Planning and Monitoring & Controlling phases based on the distribution of Knowledge Areas

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PMBoK ® Initiating Process Group

Initiating

▸ Consists of two Knowledge Areas

– *Develop Project Charter*

– *Identify Stakeholders*

▸ Initiating Process Group has no direct touchpoints with CEBoK

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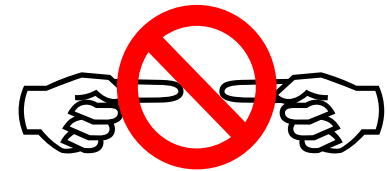
PMBoK ® Planning Process Group

Planning

▸ Consists of 20 Knowledge Areas

▸ *Develop Project Management Plan*

▸ *Collect Requirements*

▸ *Define Scope*

▸ *Create Work Breakdown Structure*

▸ *Define Activities*

▸ *Sequence Activities*

▸ *Estimate Activity Resources*

▸ *Estimate Activity Durations*

▸ *Develop Schedule*

▸ *Estimate Costs*

▸ *Determine Budget*

▸ *Plan Quality*

▸ *Develop Human Resource Plan*

▸ *Plan Communications*

▸ *Plan Risk Management*

▸ *Identify Risks*

▸ *Perform Qualitative Risk Analysis*

▸ *Perform Quantitative Risk Analysis*

▸ *Plan Risk Responses*

▸ *Plan Procurements*

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PMBoK ® Executing Process Group

Executing

▶ Consists of 8 Knowledge Areas

▶ *Direct & Manage Project Execution*

▶ *Perform Quality Assurance*

▶ *Acquire Project Team*

▶ *Develop Project Team*

▶ *Manage Project Team*

▶ *Distribute Information*

▶ *Manage Stakeholder Expectations*

▶ *Conduct Procurements*

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# PMBoK ® Monitoring & Controlling Process Group

Monitoring
&
Controlling

▸ Consists of 10 Knowledge Areas

▸ *Monitor & Control Project Work*

▸ *Perform Integrated Change Control*

▸ *Verify Scope*

▸ *Control Scope*

▸ *Control Schedule*

▸ *Control Costs*

▸ *Perform Quality Control*

▸ *Report Performance*

▸ *Monitor and Control Risks*

▸ *Administer Procurements*

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PMBoK ® Closing Process Group

Closing

▸ Consists of 2 Knowledge Areas

▸ *Close Project or Phase*

▸ *Close Procurements*

▸ Closing Process Group has no direct touchpoints with CEBoK

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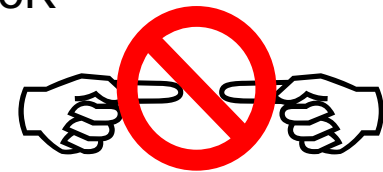
PMBoK ® Knowledge Areas (KA) Overview

Initiating	Planning	Executing	Monitoring & Controlling	Closing
2 KA	20 KA	8 KA	10 KA	2 KA

▸ Integration Management

▸ Scope Management

▸ Time Management

▸ Cost Management

▸ Quality Management

▸ Human Resource Management

▸ Communications Management

▸ Risk Management

▸ Procurement Management

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Alignment of Knowledge Areas (KA) and Process Groups

	INITIATING	PLANNING	EXECUTING	MONIORING & CONTROLLING	CLOSING
INTEGRATION MANAGEMENT	Develop Project Charter	Develop Project Management Plan	Direct & Manage Project Execution	Monitor/Control Work Perform Integration Change Control	
SCOPE MANAGEMENT		Collect Requirements Define Scope Create Work Breakdown Structure		Verify Scope Control Scope	
TIME MANAGEMENT		Define Activities Sequence Activities Estimate Activity Resources/Durations Develop Schedule		Control Schedule	
COST MANAGEMENT		Estimate Costs Determine Budget		Control Costs	
QUALITY MANAGEMENT		Plan Quality	Perform Quality Assurance	Perform Quality Control	
HUMAN RESOURCE MANAGEMENT		Develop Human Resources Plan	Acquire Project Team Develop Project Team Manage Project Team	Monitor/Control Work	Close Project/Phase
COMMUNICATION MANAGEMENT	Identify Stakeholders	Plan Communications	Distribute Information Manage Stake Holder Expectations	Report Performance	
RISK MANAGEMENT		Plan Risk Management Identify Risks Perform Quality/Quantity Risk Analysis Plan Risk Responses		Monitor/Control Risks	
PROCUREMENT MANAGEMENT		Plan Procurements		Administer Procurements	Close Procurements

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Aligning the CEBoK with PMBoK®

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CEBoK Sections

▸ Cost Estimating Basics

▸ Cost Estimating Techniques

▸ Parametric Estimating

▸ Data Collection

▸ Inflation

▸ Data Analysis

▸ Learning Curve

▸ Regression Analysis

▸ Cost Risk

▸ Probability & Statistics

▸ Manufacturing Cost Estimation

▸ S/W Cost Estimation

▸ Economic Analysis

▸ Contract Pricing

▸ EVMS

▸ Cost Management

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CEBoK Sections Categorized by PMI Process Groups

PM Process Groups

CEBoK	Initiating	Planning	Executing	Monitoring & Controlling	Closing	Example Activities
Cost estimating basics		x				Analysis of Alternatives, Project/Program Baseline Cost Estimate
Cost estimating techniques		x				Project/Program Baseline Cost Estimate; Labor Analysis
Parametric Estimating		x				
Data collection		x	x			
Inflation		x				
Data Analysis			x	x		
Learning curve		x				
Regression Analysis		x				
Cost Risk		x		x		Risk Adjusted Cost Estimate; Cost Risk Analyses; Risk Models
Probability & Statistics		x				Project/Program Baseline Cost Estimate
Manufacturing Cost Estimation		x	x	x		Project/Program Baseline Cost Estimate; Labor Analysis
S/W Cost Estimation		x		x		Project/Program Baseline Cost Estimate
Economic Analysis						Analysis of Alternatives, TOC, CAIV
Contract Pricing		x				Procurement Analyses
EVMS				x		Project Baseline Analysis, ETC, EAC
Cost Management				x		TOC, CAIV

Pursuing a PMI Certification

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PMI Certifications

▸ Certified Associate in Project Management (CAPM)®

▸ Project Management Professional (PMP)®

▸ Program Management Professional (PgMP)®

▸ PMI Agile Certified Practitioner (PMI-ACP)®

▸ PMI Risk Management Professional (PMI-RMP)®

▸ PMI Scheduling Professional (PMI-SP)®

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Certification Requirements

PMI – Management Certifications

PMI Certification	Education	Experience
Certified Associate Project Management (CAPM)®	❑ H.S. Diploma	❑ 1,500 hrs of Project Experience, ❑ (or) 23 hrs of Project Management Experience
Project Management Professional (PMP)®	❑ Bachelor's Degree ❑ 35 hrs of Project Management Education	❑ 4,500 hrs Leading/Directing Projects
Program Management Professional (PgMP)®	❑ Bachelor's Degree	❑ 4 Yrs of Project Management Experience ❑ 4 Yrs of Program Management Experience

Additional PMI Offered - Specialty Certifications

PMI Certification	Education	Experience
PMI Risk Management Professional (PMI-RMP)®	❑ Bachelor's Degree ❑ 30 hrs Project Risk Management Ed	❑ 3,000 hrs of Project Risk Management
PMI Scheduling Professional (PMI-SP)®	❑ Bachelor's Degree ❑ 30 hrs of Project Scheduling Ed	❑ 3,500 hrs of Project Scheduling
PMI Agile Certified Practitioner (PMI-ACP)®	❑ 21 hrs Training in Agile Practices	❑ 2,000 hrs working on project teams ❑ 1,500 hrs working on Agile projects

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Conclusion

▸ The Project Management Professional (PMP) credential is a career enhancing addition for professionals in the Cost Estimation field

▸ Achieving a PM certification helps demonstrate the ability of the cost estimator/analyst to lead on the integration of their effort with the larger project team; longer-term it positions for Program Management opportunities

▸ Due to the direct alignment of CEBoK with the PM Framework, much of the work in the Cost Estimation field (CEBoK) will fulfill the work experience requirement on the application for PMI Certifications, e.g. CAPM, PMP, PgMP

http://www.pmi.org/Certification/Certification-FAQ.aspx

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