

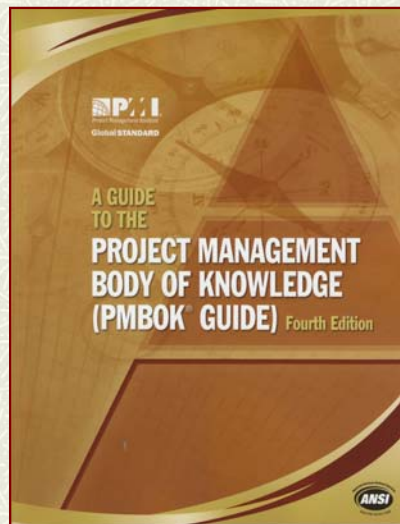
# PMBOK® Guide Development

James C. Blair, PhD, PMP

Project Management Institute Tutorial  
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## Project Management Body of Knowledge



ANSI/PMI 99-001-2008



## Project Management Body of Knowledge

- # The Project Management Body of Knowledge is an inclusive term that describes the sum of knowledge within the profession of project management
- # The PMBOK® **Guide** identifies and describes that subset of the Project Management Body of Knowledge that is generally recognized as good practice

Source: PMBOK® 4<sup>th</sup> Edition, p. 4



## Project Management Body of Knowledge

- # Generally recognized means the knowledge and practices described are applicable to most projects most of the time and have a wide consensus of value and usefulness
- # Good practice means that there is general agreement that the correct application of these skills, tools, and techniques can enhance the chances of success over a wide range of different projects

Source: PMBOK® 4<sup>th</sup> Edition, p. 4



## Project Management Body of Knowledge

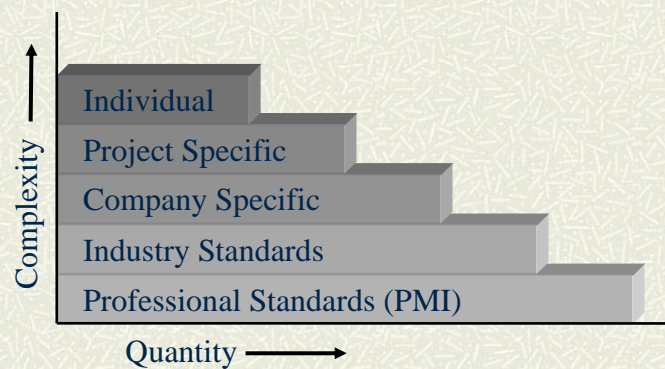
- # The guide provides and promotes a common vocabulary within the profession and practice for communication about project management
- # The guide provides a foundational reference for the profession of project management, but is neither comprehensive nor all inclusive
- # The guide is not comprehensive, it does not include innovative, emergent or unusual practices

Source: PMBOK® 4<sup>th</sup> Edition, p. 4



## Project Management Body of Knowledge

### Best Practices / Standards



Source: Using the Project Management Maturity Model, 2<sup>nd</sup> Edition, H. Kerzner, ©2005



## Project Management Body of Knowledge

- # The Project Management Framework provides a basic structure for understanding and communicating project management
- # The PMBOK® Guide describes project management in terms of its component processes and their interactions
- # The current PMBOK® Guide discusses 42 processes organized into five groups and nine knowledge areas
- # Knowledge areas describe the key competencies that project managers must develop



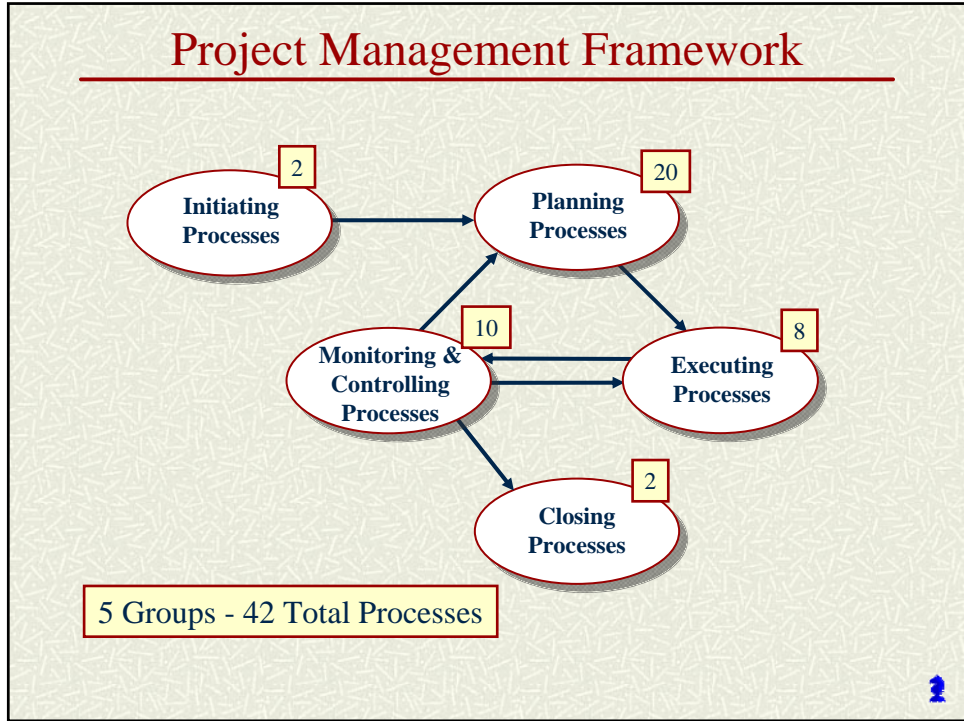
## Project Management Framework

Mapping of Project Management Processes to the Process Groups and Knowledge Areas

Knowledge Area	Process Groups	Initiating <sup>2</sup>	Planning <sup>20</sup>	Executing <sup>8</sup>	Monitoring & Controlling <sup>10</sup>	Closing <sup>2</sup>
4. Project Integration Management	6	4.1 Develop Project Charter	4.2 Develop Project Management Plan	4.3 Direct and Manage Project Execution	4.4 Monitor and Control Project Work 4.5 Perform Integrated Change Control	4.6 Close Project or Phase
5. Project Scope Management	5		5.1 Collect Requirements 5.2 Define Scope 5.3 Create Work Breakdown Structure		5.4 Verify Scope 5.5 Control Scope	
6. Project Time Management	6		6.1 Define Activities 6.2 Sequence Activities 6.3 Estimate Activity Resources 6.4 Estimate Activity Durations 6.5 Develop Schedule		6.6 Control Schedule	
7. Project Cost Management	3		7.1 Estimate Costs 7.2 Determine Budget		7.3 Control Costs	
8. Project Quality Management	3		8.1 Plan Quality	8.2 Perform Quality Assurance	8.3 Perform Quality Control	
9. Project Human Resource Management	4		9.1 Develop Human Resource Plan	9.2 Acquire Project Team 9.3 Develop Project Team 9.4 Manage Project Team		
10. Project Communications Management	5	10.1 Identify Stakeholders	10.2 Plan Communications	10.3 Distribute Information 10.4 Manage Stakeholder Expectations	10.5 Report Performance	
11. Project Risk Management	6		11.1 Plan Risk Management 11.2 Identify Risks 11.3 Perform Qualitative Risk Analysis 11.4 Perform Quantitative Risk Analysis 11.5 Plan Risk Responses		11.6 Monitor and Control Risks	
12. Project Procurement Management	4 (42)		12.1 Plan Procurements	12.2 Conduct Procurements	12.3 Administer Procurements	12.4 Close Procurements

Source: PMBOK® 4<sup>th</sup> Edition, page 43



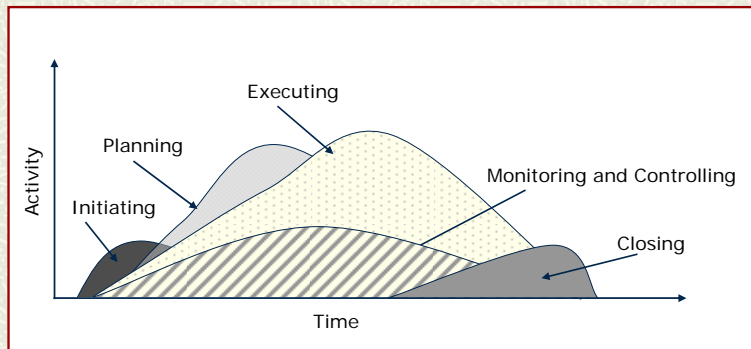


- ## Project Management Framework
- ### Process Interactions
- Within each of the five process groups, the individual processes are linked by their inputs and outputs (system theory)
  - By focusing on these links, each process can be described in terms of its:
    - Inputs – documents or documentable items that will be acted upon
    - Tools and techniques – mechanisms applied to the inputs to create the outputs
    - Outputs – documents or documentable items that are a result of the process

# Project Management Framework

## Process Interactions

- The processes are presented as discrete elements with well-defined interfaces; however, in practice they interact in ways that are not completely detailed in the PMBOK®



Source: PMBOK® 4<sup>th</sup> Edition, page 41



# Project Management Framework



9 Knowledge Areas - 42 Total Processes

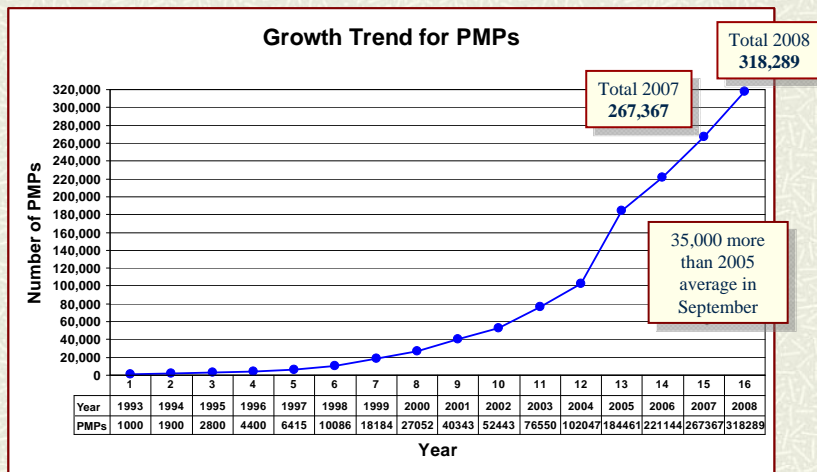


## Project Management Framework



## Project Management Body of Knowledge

- ▣ The PMBOK<sup>®</sup> Guide is and has been the primary reference for the Project Management Professional (PMP<sup>®</sup>) credential certification since the 1980s



## Project Management Institute (PMI®)

- # The Project Management Institute (PMI®) is the world's leading not-for-profit professional association dedicated to advancing state-of-the-art programs in project management
- # PMI was originally founded in 1969 by a group of five volunteers
- # PMI's global organization headquarters in Newtown Square, Pennsylvania with offices around the world



## Project Management Institute (PMI®)

- # Core Purpose:
  - To advance the practice, science and profession of project management.
- # Envisioned Goal:
  - Worldwide, organizations will embrace, value, and utilize project management and attribute their success to it.
- # Value Proposition:
  - Be the Eminent Influence for the Advancement of Project Management Throughout the World!



## Project Management Body of Knowledge

- # The concept of standards for project management was first introduced within PMI at a symposium in 1976
- # Some suggestion of certification was made at a conference in 1977, but was rejected
- # It was not until 1981 that the first formal proposal was introduced to define the Body of Knowledge of Project Management and establish project management as a unique discipline and independent profession



## Project Management Body of Knowledge

- # The initiating committee identified five (5) key attributes of a professional body:
  - An identifiable and independent body of knowledge of project management (standards)
  - Supporting educational programs by an accredited institution (accreditation)
  - A qualifying process (certification)
  - A code of ethics
  - An institute representing members with a desire to serve (PMI)
- # The results of the deliberations was a baseline report that was published as a special issue of the Project Management Quarterly in August 1983



## Project Management Body of Knowledge

- # The Project Management Body of Knowledge (PMBOK) was central to the report
- # There were six (6) areas of concentration, blocks of knowledge or “functions” identified in the PMBOK:
  - Scope Management
  - Cost Management
  - Time Management
  - Quality Management
  - Human Resources Management
  - Communications Management
- # Each of the functions was supported by a content set out in a hierarchical breakdown structure (WBS)



## Project Management Body of Knowledge

- # The report also included the Code of Ethics for Project Managers
- # The PMI Board adopted the report and proceeded with programs for the accreditation of an educational establishment and for the certification of PMI members
- # Western Carolina University was accredited in 1983 with a supporting educational program
- # The first PMI members were tested for certification in October 1984



## Project Management Body of Knowledge

- # Work on the educational accreditation and certification programs along with certification workshops brought the PMBOK under much closer scrutiny and short comings became evident
- # In 1984 the PMI Board established a project and a Standards Development Committee to:
  - Capture the knowledge applied to project management by PMI members
  - Maintain the existing standards framework
  - Present the knowledge in simple but comprehensive terms



## Project Management Body of Knowledge

- # A special PMBOK Validation Workshop was created to critique the work of the Standards Development Committee and to make recommendations
- # The workshop was attended by PMI's most active and knowledgeable members
- # Each of the committee reports underwent close scrutiny to ensure an integrated whole
- # The complete PMBOK draft was published for general information and comment by the membership in a special issue of the Project Management Journal in August 1986



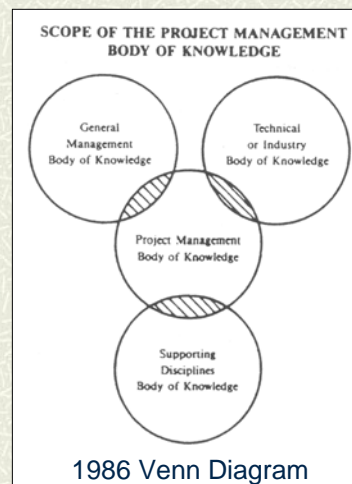
## Project Management Body of Knowledge

- # Two important findings emerged from the discussions:
  - The original hierarchical (WBS) approach was too restrictive especially in adequately describing the necessary interdependencies and interrelationships between the six project management “functions”
  - There was a need for a special subject area in which the essential project management functions of integration and interface management could be addressed
- # The name of “Project Management Framework” was adopted for this latter area of concentration



## Project Management Body of Knowledge

- # The pursuit of a common frame of reference for project management led to a re-examination of its scope and the need to put boundaries on the PMBOK
- # A Venn diagram was proposed to provide a clear diagrammatic representation of the place of project management in the business environment
- # It also demonstrated the significant different interests of individual PMI members



## Project Management Body of Knowledge

- # The 1986 revised version of the PMBOK expanded the number of “functions” from the original six (6) to eight (8)
- # In addition to expanding and restructuring the original material there were three (3) new sections:
  - Project Management Framework
  - Risk Management
  - Contract/Procurement Management
- # Each of the eight functions and the overall framework were described by use of a hierarchical breakdown (WBS), a description of the content, and a glossary of terms
- # In August of 1987 a final manuscript was published entitled “The Project Management Body of Knowledge”



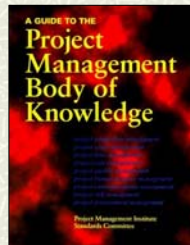
## Project Management Body of Knowledge

- # In 1993 the PMI Board of Directors established a policy for the development and publishing of standard documents that describe generally accepted practices of project management
- # Standard documents were to be developed in accordance with the “Code of Good Practice for Standardization” developed by the International Organization for Standardization (ISO)
- # In August of 1994 the PMI Standards Committee issued an Exposure Draft of the next version of the PMBOK to all the PMI members and 20 other professional and technical associations

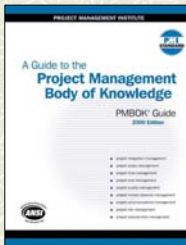


## Project Management Body of Knowledge

- ✦ In 1996 the “Guide to the Project Management Body of Knowledge” was published to supersede the 1987 “Project Management Body of Knowledge”
- ✦ The title was change to emphasize that the document is not the complete Body of Knowledge associated with the sound management of projects



1996



2000



2004



2008



## Project Management Body of Knowledge

- ✦ Changes in the 1996 version from the 1987 version also included:
  - Completely rewriting the Framework section to include an Introduction, The Project Management Context and Project Management Processes
  - Revised the definition of a project driven by the unique characteristics of a project
  - Revised view of the project life cycle in a more generalizable structure
  - Changed the name of the major sections from “function” to “knowledge area”
  - Formally recognized “Integration Management” as a ninth knowledge area



## Project Management Body of Knowledge

- # Changes in the 1996 version from the 1987 version also included:
  - Added the word “Project” to the title of the knowledge areas to clarify the scope of the document
  - The knowledge areas were revised and described in terms of their component processes as opposed to the earlier hierarchical structure (WBS)
  - Each of the 37 processes were described in terms of inputs, outputs and tools & techniques
    - Processes are at the core of other standards (e.g. ISO standards)
  - Added illustrations
  - Significantly reorganized the structure of the document



## Project Management Body of Knowledge

- # In 2000 PMI published the second edition of the “Guide to the Project Management Body of Knowledge” to:
  - Add new material reflecting the growth of the knowledge and practices in the profession of project management
  - Add clarification to the text and figures
- # The major changes in the 2000 version from the 1996 version included:
  - Strengthening linkages to organization strategy
  - Providing more emphasis on progressive elaboration
  - Acknowledged the role of the Project Office
  - Expanded the treatment of Earned Value Management



## Project Management Body of Knowledge

- Additional major changes in the 2000 version from the 1996 version included:
  - Moved “scope verification” from an executing process to a controlling process
  - Changed the name of “Overall Change Control” to “Integrated Change Control” to emphasize the importance of change control throughout the entirety of the project
  - The Risk Management chapter was rewritten and now contains six (6) processes instead the previous four (4)
    - Risk Management Planning was added to emphasize the importance of a comprehensive risk plan
    - Added Qualitative Risk Analysis to emphasize prioritizing risks with or without Quantatizing



## Project Management Body of Knowledge

- Additional major changes in the 2000 version from the 1996 version included:
  - Added a chart that maps the thirty-nine (39) processes against the five (5) process groups and the nine (9) knowledge areas



## Project Management Body of Knowledge

- ✦ After publication of the 2000 Edition of the “Guide to the Project Management Body of Knowledge”, PMI received thousands of valuable recommendations for improvements
- ✦ As a result of the inputs and the growth of the Project Management Body of Knowledge, the recommendations were all reviewed and incorporated, as appropriate, into the third edition
- ✦ An exposure draft was released at the end of 2003 with the final publication of the third edition in 2004



## Project Management Body of Knowledge

- ✦ The updates and changes in the third edition were to:
  - Change the criteria for inclusion of material from “generally accepted on most projects most of the time” to generally recognized as good practice on most projects most of the time”
  - Add new material reflecting the growth of the knowledge and practices in the profession of project management
    - For example: the Critical Chain method first appeared as a Technique for Schedule Development
  - Expand and clarify the treatment of much of the content within the standard



## Project Management Body of Knowledge

- The major changes in the 2004 version from the 2000 version included:
  - In most instances the process names were revised in a verb-object format for clarity
  - Revisions to emphasize the integration of the processes:
    - Project Management processes were mapped
    - All process inputs, outputs, and tools & techniques
    - Process flow diagrams
  - Provided a clearer distinction between Process Groups and Knowledge Areas with a greater emphasis on the importance of the Process Groups



## Project Management Body of Knowledge

- The major changes in the 2004 version from the 2000 version included:
  - The number of processes increased from 39 to 44:
    - Seven processes were added
    - Two processes were deleted
    - 12 processes were renamed
    - Two processes moved and renamed
  - Clarified the distinction between project life cycles and product life cycles



## Project Management Body of Knowledge

- The major changes in the 2004 version from the 2000 version included:
  - Clarified the relationship of “Configuration Management” and “Change Management”
    - In the 2000 edition Configuration Management was described as a Technique for Integrated Change Control and stated: “In many application areas, configuration management is a subset of the change control system and is used to ensure that the description of the project’s product is correct and complete.” (Page 49)



## Project Management Body of Knowledge

- The major changes in the 2004 version from the 2000 version included:
  - Clarified the relationship of “Configuration Management” and “Change Management”
    - In the 2004 edition Configuration Management is described as a Technique for Develop Project Management Plan and clearly stated: “The change control system is a subsystem of the configuration management system.” (Page 90)



## Project Management Body of Knowledge

- After publication of the Third Edition of the “Guide to the Project Management Body of Knowledge” in 2004, PMI received thousands of valuable recommendations for improvements
- As a result of the inputs and the growth of the Project Management Body of Knowledge, the recommendations were all reviewed and incorporated, as appropriate, into the fourth edition
- An exposure draft was released in early 2008 with the final publication of the fourth edition in December 2008



## Project Management Body of Knowledge

- The updates and changes in the Fourth Edition were to:
  - Add or modify material reflecting the growth of the knowledge and practices in the profession of project management
    - Remove the Arrow Diagramming Method (ADM) as a Technique for Sequence Activities since it is rarely, if ever used today
    - Update Contract types by removing Cost Plus Fee and adding Fixed Price Incentive Fee contracts
    - Added To-Complete Performance Index (TCPI) to Earned Value Analysis in Cost Control

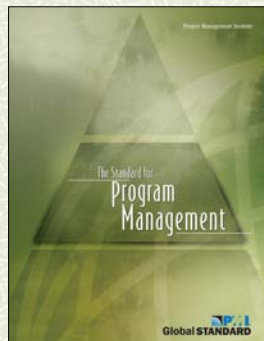


## Project Management Body of Knowledge

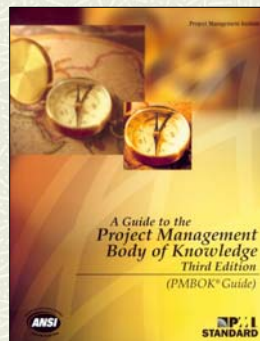
- The updates and changes in the Fourth Edition were to:
  - Revise, expand, and clarify the standard in a manner consistent with other PMI standards, either existing or being developed
    - Remove some project selection material from the PMBOK that is more appropriate in the Program and/or Portfolio standards



## Project Management Body of Knowledge



Programs  
2006



Projects  
2004



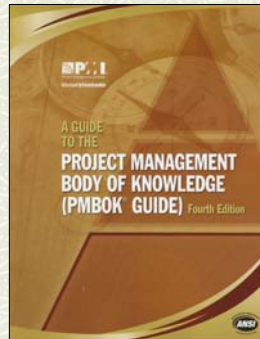
Portfolios  
2006



## Project Management Body of Knowledge



Programs  
2008



Projects  
2008



Portfolios  
2008



## Project Management Body of Knowledge

- The major changes in the Fourth Edition from the Third Edition included:
  - Revision of most process names so that all are in a verb-object format for consistency
  - Standardization of the approach for discussing the “Enterprise Environmental Factors” and “Organizational Process Assets”
  - Standardization of the approach for discussing “Requested Changes”, “Preventive Actions”, “Corrective Actions”, and “Defect Repairs”
  - Provide a distinction between the project management plan and project documents to manage the plan



## Project Management Body of Knowledge

- The major changes in the Fourth Edition from the Third Edition included:
  - Clarify the distinction between the information in the “Project Charter” and the “Project Scope Statement”
  - The process flow diagrams were deleted and replaced with data flow diagrams to show the related inputs and outputs of the processes
  - A new appendix was added that addresses key “Interpersonal Skills” that a project manager utilizes when managing a project



## Project Management Body of Knowledge

- Information sources:
  - Project Management Quarterly, August 1983, Project Management Institute (PMI®)
  - Project Management Journal, August 1986, PMI®
  - The PM Network, August 1987, PMI®
  - A Guide to the Project Management Body of Knowledge, ©1996, PMI®
  - A Guide to the Project Management Body of Knowledge, 2000 Edition, ©2000, PMI®
  - A Guide to the Project Management Body of Knowledge, Third Edition, ©2004, PMI®
  - A Guide to the Project Management Body of Knowledge, Fourth Edition, ©2008, PMI®

