



مدیریت پروژه بر اساس PMBOK به همراه الحاقیه ساخت (ویرایش هفتم)

معرفی دوره

ارائه دهندگان:

سید محمدرضا علوی پور

(PhD, PMP, CMIT)

دانشگاه Illinois Tech آمریکا

حمیدرضا مظاهری

(M.Sc., PMP)

معاون طرح و برنامه هلدینگ ساختمانی بانک ایران زمین

با توجه به گسترش روزافزون تعداد پروژه‌ها در عرصه بین‌الملل و وجود شرایط رقابتی گسترده بین سازمان‌ها و شرکت‌های مختلف، لزوم به کارگیری روش‌های استاندارد در خصوص مدیریت پروژه‌ها امری مهم تلقی گردیده، که یکی از خطوط راهنما در حوزه مدیریت پروژه، راهنمای مدیریت پروژه PMBOK است. همچنین، با توجه به تعدد پروژه‌های حوزه ساخت در کشور و وجود الحاقیه ساخت به همراه نسخه PMBOK، انضمام نمودن موارد کاربردی به دوره مدیریت پروژه براساس PMBOK، بر تشریح و تبیین موارد می‌افزاید. اما نکته‌ای که حائز اهمیت است، آنست که این استاندارد بدون در نظر گرفتن مبانی تخصصی محدوده‌های دانشی مختلف (استانداردها و دستورالعمل‌ها و فرآیندهای تخصصی که برای مدیریت هزینه، ریسک، زمان، تأخیرات، مدیریت ادعا و بسیاری از موارد دیگر در موسسه ACEMI ارائه شده است)، کارایی لازم را نداشته و برای افزایش بهره‌مندی از این ساختار فرآیندی، باید با توجه به سطح تخصصی مبانی مختلف، این مبانی یکپارچه گردند. امری که قرار است موسسه ACEMI برای اولین بار و در راستای یکپارچه‌سازی مبانی آموزشی ارائه شده، انجام داده و در این مسیر به چالش‌ها و ضعف‌های استاندارد نیز اشاره می‌نماید. در واقع، این دوره که در موسسه ACEMI برگزار می‌گردد از دو منظر مستثنی است. اول، آموزش الحاقیه ساخت PMBOK یا همان PMBOK Construction Extension و دوم، یکپارچه‌سازی مبانی تخصصی مدیریت پروژه در قالب استاندارد موجود، همراه با بررسی ضعف‌های ساختاری که به استاندارد وارد است. باید اشاره نمود که استانداردها و راهنماهای بسیار دیگری نیز وجود دارد که موسسه ACEMI در نقشه راه آموزشی خود به آموزش آن‌ها بر اساس یک ساختار سلسله‌مراتبی می‌پردازد.

آنچه خواهید آموخت

در این دوره علاوه بر آموزش استاندارد PMBOK به عنوان یک راهنمای کلی در حوزه مدیریت پروژه، بخش‌های اصلی الحاقیه ساخت (PMBOK Construction Extension) از قبیل انواع پروژه‌های ساخت، روش‌های اجرا و تحویل پروژه، بازارهای جهانی و پروژه‌های آتی در حوزه ساخت، موارد کلیدی در مدیریت قرارداد، هزینه و مالی نیز تشریح می‌گردد. همچنین، حوزه‌های عملکردی مختلف شامل ذی‌نفعان، تیم پروژه، چرخه حیات، برنامه‌ریزی و اجرای پروژه، تحویل دادنی‌ها، به همراه بخش اندازه‌گیری‌ها به صورت تفصیلی تبیین می‌گردد. در انتها، لزوم متناسب سازی (Tailoring) با سازمان و مدل‌های مختلف تشریح گردیده و این مبانی تخصصی آموزش داده شده در موسسه ACEMI با یکدیگر و در قالب استاندارد یکپارچه می‌شوند. در واقع در این دوره:

۱. با استاندارد مدیریت پروژه و نقاط ضعف و قوت آن آشنا می‌شوید.
۲. با راهنمای پیکره دانش PMBOK آشنا شده و یکپارچه‌سازی محدوده‌های دانشی مدیریت پروژه را بر اساس آنچه در دوره‌های موسسه ACEMI آموزش دیده‌اید، فرا خواهید گرفت.
۳. با الحاقیه ساخت PMBOK که به PMBOK Construction Extension معروف است آشنا شده و نقاط ضعف و قوت آن را در قیاس با مبانی تخصصی ارائه شده در صنعت ساخت فرا خواهید گرفت.
۴. نحوه متناسب‌سازی (Tailoring) مبانی ارائه شده و دانش‌های تخصصی مدیریت هزینه، مالی، برنامه، ریسک و ... را با فرآیندهای ارائه شده و همراه با بررسی نقاط ضعف و قوت این راهنما خواهید آموخت.



Road map

مدیریت پروژه بر اساس PMBOK به همراه الحاقیه ساخت

مقدمه: معرفی دوره



ارائه گواهینامه حضور بر اساس حضور بیش از ۶۰ درصد در دوره
و گواهینامه حرفه ای بر اساس قبولی در آزمون برای هر دوره

مهارتهای سخت (Hard Skills) - سطح کارشناسی و اجرایی

سطح ۵	سطح ۴	سطح ۳	سطح ۲	سطح ۱	دپارتمان
	استاندارد مدیریت ساخت CMAA	متدولوژی Prince2	راهنمای PMBOK		مدیریت پروژه
	تامین مالی پروژه			مدیریت مالی و هزینه پروژه ارزیابی اقتصادی پروژه	مدیریت مالی و هزینه
				برنامه ریزی و کنترل پروژه نرم افزار MSP نرم افزار Primavera	مدیریت برنامه ریزی و زمان بندی
		مدیریت کیفیت پروژه			مدیریت کیفیت
اجرای پروژه به روش CM			مدیریت ادعاء و اختلافات	آنالیز تاخیرات پروژه	مدیریت قرارداد
		مدیریت ایمنی پروژه			مدیریت ایمنی
مدیریت طرح		مدیریت چابک Agile	مدیریت پروژه به روش Lean دفتر مدیریت پروژه PMO		مدیریت طرح و برنامه
		مدیریت پایداری پروژه			مدیریت پایداری
			مدیریت ریسک پروژه		مدیریت ریسک
			نرم افزار Power BI	مدیریت اسناد و مدارک پروژه	مدیریت اطلاعات
	مدیریت BIM در پروژه		نرم افزارهای BIM		مدلسازی اطلاعات ساختمان (BIM)

References Used in This Course

Primary resources

- ❑ **A Guide to the Project Management Body of Knowledge (PMBOK® Guide). 6th ed.** Project Management Institute, **2017.**
- ❑ **A Guide to the Project Management Body of Knowledge (PMBOK® Guide). 7th ed.** Project Management Institute, **2021.**
- ❑ **Construction Management Standards of Practice.** Construction Management Association of America, **2021.**
- ❑ **Construction Extension to the PMBOK Guide.** Project Management Institute, **2016.**

Other resources

- ❑ **Process Groups: A Practice Guide.** Project Management Institute, **2022.**



مدیریت پروژه بر اساس PMBOK به همراه الحاقیه ساخت (ویرایش هفتم)

بخش اول: تاریخچه، ساختار، تغییرات و مقایسه PMBOK با استانداردهای دیگر

ارائه دهندگان:

سید محمدرضا علوی پور

(PhD, PMP, CMIT)

دانشگاه Illinois Tech آمریکا



What we will learn?

- ☐ The History of General Project Management
- ☐ The History of Specialized Project Management
- ☐ Introduction to PMI
- ☐ Introduction to PMBOK
- ☐ PMBOK VS. Other References

Prepared by Dr. Alavipour
DO NOT DISTRIBUTE

THE HISTORY OF GENERAL PROJECT MANAGEMENT

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When this path has been started?



1965



1969

2013



Strategic Accredited
Training Organizations

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History

The First Years, INTERNET

The exchange of experiences in IPMA (formerly INTERNET) has a long tradition. It all begun in the year 1964. A European aircraft Project Manager, Pierre Koch of France, invited Dick Vullings from the Netherlands and Roland Gutsch from Germany to discuss the benefits of the Critical Path Method (CPM) as a management approach. CPM showed a way to manage large projects with international sponsors, uncertain results as well as with complex influences and dependencies from different technical disciplines. This group was chaired by Yves Eugene from AFIRO (Association Française d'Informatique et de Recherche Opérationnelle). Professor Arnold Kaufmann suggested the formation of an INTERNational NETwork, the INTERNET.

In 1965, this group of people founded the IMSA (International Management Systems Association), independent from companies and officially located in Switzerland, the most respected and politically neutral country in Western Europe in these days of the "Cold War". Two years later the Czechoslovak Project Management Science Group issued invitations to join the first "all-state" conference on the "Methods of Network Analysis" in Prague. PhD Vladimira Machova was the host beside the political officials in those days. Then, with the sponsorship of the International Computer Centre in Rome, managed by Professor Claude Berge, the first International World Congress took place in Vienna. From then on INTERNET was the official association name.

In 1967, the two-year-old INTERNET society held its first International European Internet Congress in Vienna.

In 1989, Advanced Courses for advancing competences of experts in project, programme and portfolio management are launched.



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The name change to IPMA

In 1996, the 13th World Congress (1996) was held in Paris. INTERNET got a namesake – a new international telecommunication system. The Executive Board (ExBo) renamed INTERNET to International Project Management Association, IPMA (our third and current name), but retained the logo.

In 1998, IPMA starts with certification of individuals and the 1st version of ICB, v.1.0. is being published.

In 2002, IPMA launches the IPMA International Project Excellence Award.

In 2012, IPMA started offering organisational assessment and certification through IPMA Delta.

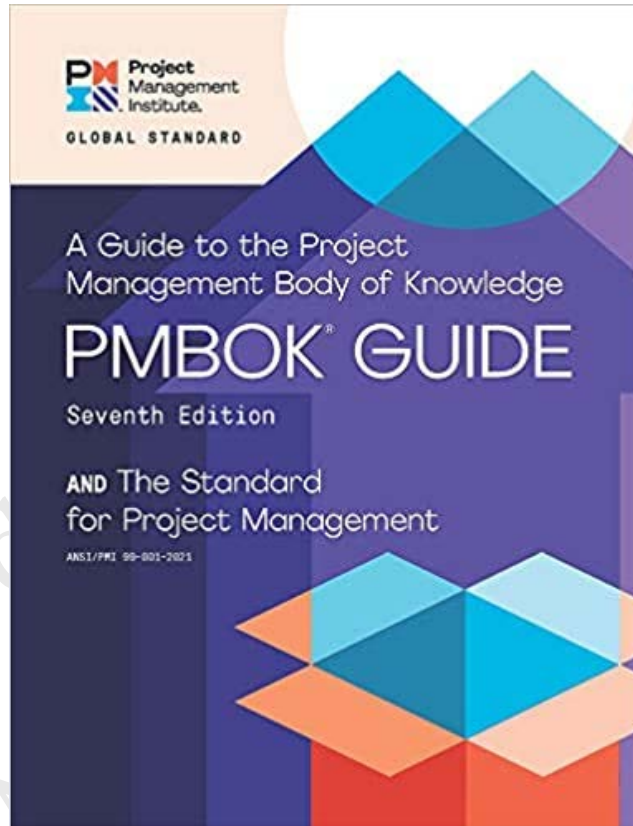
In 2015, IPMA launched new versions of all standards, **IPMA ICB4, IPMA OCB 1.1, IPMA PEB**

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Year	Release Name	Release Edition
1975	PROMPTII	PROMPTII
1989	PRINCE	PRINCE
1996	PRINCE2 1996	PRINCE2 1st Edition
1998	PRINCE2 1998	PRINCE2 2nd Edition
2002	PRINCE2 2002	PRINCE2 3rd Edition
2005	PRINCE2 2005	PRINCE2 4th Edition
2009	PRINCE2 2009	PRINCE2 5th Edition
2017	PRINCE2 2017	PRINCE2 6th Edition
2018	PRINCE2 Agile	PRINCE2 Agile



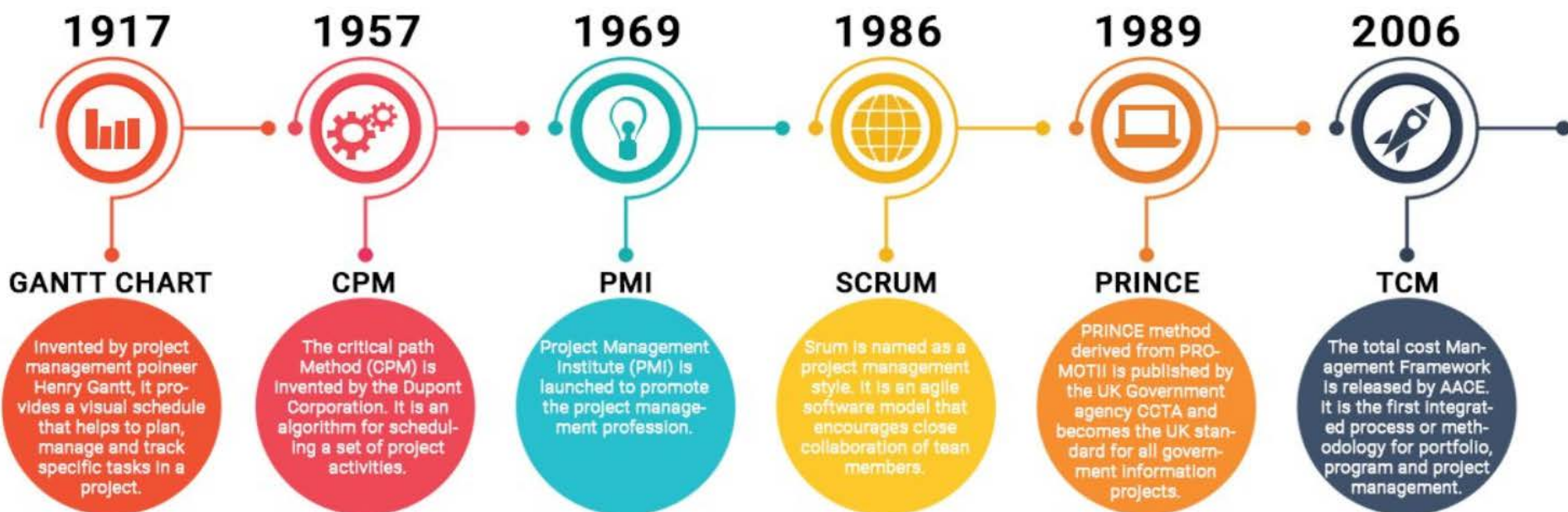
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A Brief History of Project Management



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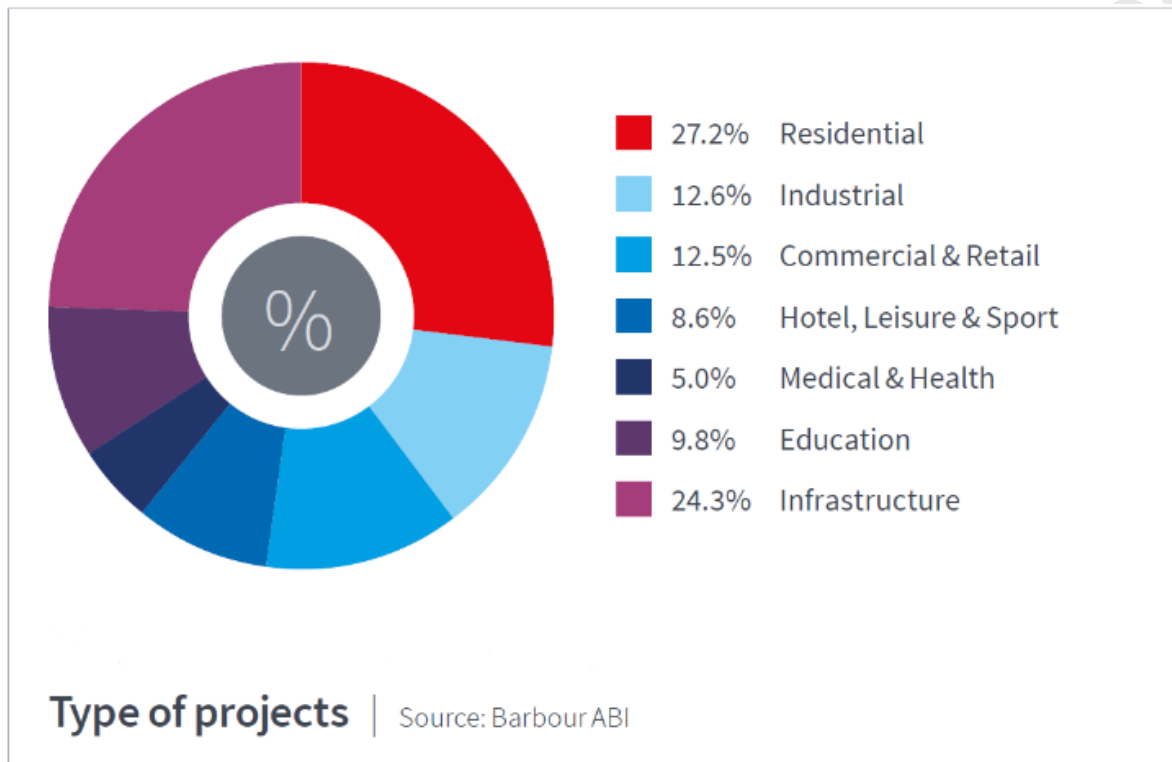
What do you think about this view?

Is this true?

What do you think?

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The latest edition of the **Economic & Construction Market Review** from industry analysts Barbour ABI, highlights levels of construction contract values awarded across **Great Britain**.



Download the full report here: <http://ubm.io/2FRLrwm>

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This may be true for **general project management**

but

The construction industry that includes

1. Building Projects
2. Engineering and Infrastructure Projects
3. Industrial Projects

has **different history!**

And we have many processes proposed for them...

Let's look at the history....

THE HISTORY OF SPECIALIZED PROJECT MANAGEMENT

A history of specialized project management

 ASCE AMERICAN SOCIETY OF CIVIL ENGINEERS	1852	 Construction Management Association of America	1982
 The American Institute of Architects	1857	 Construction Industry Institute®	1983
 AGC THE CONSTRUCTION ASSOCIATION	1916	 The Society of Construction Law	1983
 aace International The Authority for Total Cost Management.	1956	 Lean Construction Institute Transforming Design and Construction	1997
 CONSTRUCTION INSTITUTE	1975 2000	These are just a few!	

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Historical perspective of CM

- ❑ The term “**construction management**” has become part of the construction vocabulary in the **late 1960’s**.
 - ❖ PMI founded in 1969.
- ❑ Many architect/engineers and contracting companies claim that they have been practicing it for years **even before the 1960’s**.
- ❑ It is generally accepted that the term reached a “**professional**” meaning **after 1970**.

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Historical perspective of CM

- ☐ 1972 Associate General Contractors of America (**AGC**) Guidelines
- ☐ 1973 American Institute of Architects (**AIA**) Form of Agreement
- ☐ 1974 **AGC** Form of Agreement
- ☐ 1975 American Society of Civil Engineers (**ASCE**) Committee on CM
(current **MPIC**)
 - 1976 Definition of CM Process
 - 1979 Definition of CM Tasks
 - 1979 Specs for CM Services
 - 1979 Contractors' Views on CM
 - 1980 A/E's Views on CM
- ☐ 1982 Construction Management Association of America (**CMAA**)
 - 1986 Manual of Practice
- ☐ 1983 Construction Industry Institute
- ☒ 1989 Engineering News Record (**ENR**) Top 100 CM Firms

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What is Construction Management Association of America (CMAA)?

- ❑ Construction management is **rooted** in **traditional project management practices** and **requires** a **unique** body of **skills** and **professional knowledge** to perform successfully.
- ❑ **CMAA** was formed in **1982** to:
 - ❖ Provide **standards**
 - ❖ Provide **unique identity** of construction managers
 - ❖ **Qualify** construction managers
 - ❖ Help **owners** to use **certified construction managers** in their projects to **improve project results**

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CMAA defines construction management as a professional service that applies effective management techniques to the planning, design, and construction of a project from inception to completion for the purpose of controlling time, cost, and quality.

Program management is the practice of professional construction management applied to a capital improvement program of one or more projects from the program's inception to completion.

Comprehensive construction management services are used to integrate the different facets of the construction process

- planning, design, procurement, construction, and activation
- for the purpose of providing standardized technical and management expertise on each project.

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A professional construction manager manages the entire project and program with pre-planning, design, construction, close out, and management expertise that can assure the best possible project outcome no matter what type of project delivery method is used.





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Best practices



Business intelligence



Leadership education



Architectural research



Firm ownership resources



Project delivery resources



Workplace culture
resources



Business development
resources



Salary calculator



Contract Documents



MasterSpec



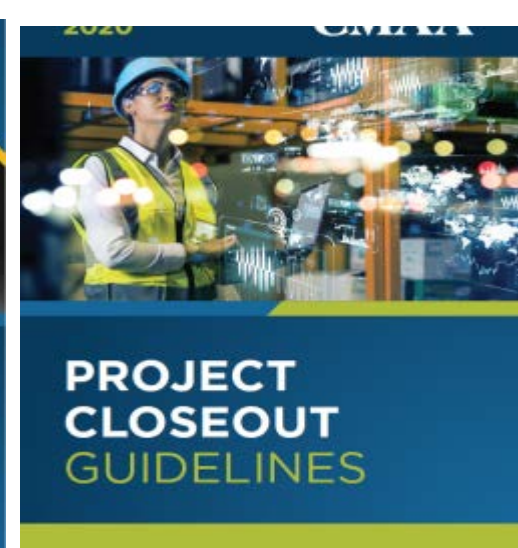
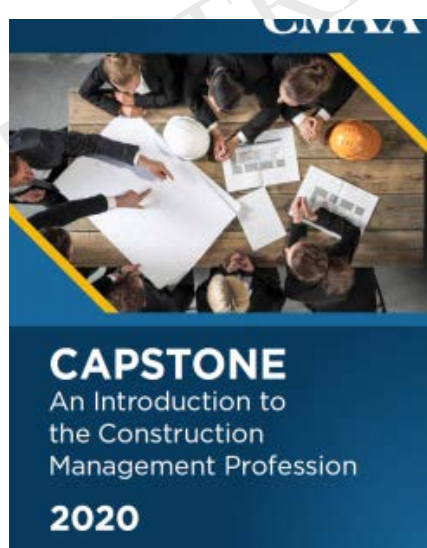
Practice Management

ذکر مطالب فوق تنها در د



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6-014 Add the following Illustration:

Facts: Under a JCT Standard Form of Building Contract (Without Quantities), the contractor issued an ineffective payment application. The contractor (Beck) had previously (in April 2015) applied for £2.9m (against a gross value of £6.5m), which included a sizeable claim for preliminaries in respect of an EoT that had yet to be awarded. The response to that application was interim payment certificate no 18, giving a gross value of £3.9m and a sum payable of £226,000. In May 2015, no interim application was issued; however, the CA issued an interim payment certificate no 19, giving a gross value of £4m and a sum payable of £18,000. The employer (Henia) then issued a payless notice, stating that £0 was due to Beck under certificates 18 and 19 because it had an entitlement to LADs for 40 weeks' delay, amounting to £373,000. Beck referred the matter to adjudication and the adjudicator issued a decision largely in Henia's favour. In the meantime, Henia issued CPP Part 8 proceeding, seeking decisions: (1) on the effectiveness of Beck's April application as a payment notice for the May payment date; (2) the validity of Henia's payless notice; and (3) whether the failure by the CA to provide a decision on the EoT prevented Henia from claiming LADs. *Held*, by Akenhead J, that: (1) application was not an effective for May; (2) the payless notice was valid; and (3) Henia was entitled to claim LADs, even where the CA had not awarded an EoT. This part of the judgment was obiter (because the adjudicator had decided Beck had not made an application for an EoT) and so assumed that an effective EoT claim had been submitted and that the CA had failed to reach a decision on it. The judge concluded that cl. 2.32 was not drafted in such a way that the CA's proper operation of the EoT provisions was a condition precedent to the entitlement to deduct LADs, although he found that the non-completion certificate and employer's notice were conditions precedent: *Henia Investments Inc v Beck Interiors Limited* (2015).²

6-037 Add at the end of footnote 56:

See also R Gibson, "Time in the Noughties" (2011) 27 Const LJ 376.

6-078 Add the following Illustration after the existing Illustration (which should be numbered (1)):

- (2) *Facts:* C entered into a JCT Standard Form of Building with Contractor's Design, 1998 edition with R as the employer. This had provisions relating to LADs and extensions of time upon the occurrence of a "relevant event". The works were delayed. C and R subsequently entered into a supplemental agreement, agreeing that C had no claims for an EoT and agreeing a new contract sum, which included C's liability for LADs. C had entered into sub-contracts with D for the provision of mechanical and electrical services. C commenced proceedings against D for the delay in which it claimed its own costs as well as those it was liable for under its contract with R. D argued for an entitlement to an EoT and that they should not be held liable for LADs because C had no liability to R for such damages, and/or had not paid such sums to R and/or that such sums had not been deducted from sums otherwise payable by R to C. *Held:* that (1) D was entitled to an EoT under the

INTERNATIONAL CONSTRUCTION CLAIMS: Avoiding & Resolving Disputes

by Irvin E. Richter

An Engineering News-Record Book

The field of international construction contracting provides risks as great as the potential rewards. It is incumbent upon the contracting parties, whether they be employer, engineer, contractor, subcontractor, vendor, solicitor or banker, to fully comprehend their rights as well as their concomitant obligations in their respective roles in the construction process. An international environment creates potential for conflict which does not exist on projects in one's home country. Thus, the potential for claims and disputes is greater.

This text demonstrates how the com-



The history of specialized project management knowledge

ت
اردهای دیگر



10S-90: Cost Engineering Terminology \$

Document: [Download Publication](#)



11R-88: Required Skills and Knowledge of Cost Engineering \$

Document: [Download Publication](#)



13S-90: Recommended Method for Determining Building Area \$

Document: [Download Publication](#)



14R-90: Responsibility and Required Skills for a Project Planning and Scheduling Professional \$

Document: [Download Publication](#)



15R-81: Profitability Methods \$

Document: [Download Publication](#)



16R-90: Conducting Technical and Economic Evaluations - As Applied for the Process and Utility Industries \$

Document: [Download Publication](#)



17R-97: Cost Estimate Classification System \$

Document: [Download Publication](#)



18R-97: Cost Estimate Classification System - As Applied in Engineering, Procurement, and Construction for the Process Industries \$

Document: [Download Publication](#)



23R-02: Identification of Activities \$

Document: [Download Publication](#)



24R-03: Developing Activity Logic \$

Document: [Download Publication](#)



25R-03: Estimating Lost Labor Productivity in Construction Claims \$

Document: [Download Publication](#)



27R-03: Schedule Classification System \$

Document: [Download Publication](#)



28R-03: Developing Location Factors by Factoring - As Applied in Architecture, Engineering, Procurement, and Construction \$

Document: [Download Publication](#)



29R-03: Forensic Schedule Analysis \$

Document: [Download Publication](#)



30R-03: Implementing Project Constructability \$

Document: [Download Publication](#)



31R-03: Reviewing, Validating, and Documenting the Estimate \$

Document: [Download Publication](#)



32R-04: Determining Activity Durations \$

Document: [Download Publication](#)



33R-15: Developing the Project Work Breakdown Structure \$

Document: [Download Publication](#)



48R-06: Schedule Constructability Review \$

Document: [Download Publication](#)



49R-06: Identifying the Critical Path \$

Document: [Download Publication](#)



50R-16: Trending and Forecasting of CPM Schedules \$

Document: [Download Publication](#)



52R-06: Prospective Time Impact Analysis - As Applied in Construction \$

Document: [Download Publication](#)



53R-06: Schedule Update Review - As Applied In Engineering, Procurement and Construction \$

Document: [Download Publication](#)



54R-07: Recovery Scheduling - As Applied in Engineering, Procurement, and Construction \$

Document: [Download Publication](#)



55R-09: Analyzing S-Curves \$

Document: [Download Publication](#)



56R-08: Cost Estimate Classification System - As Applied in Engineering, Procurement, and Construction for the Building and General Construction Industries \$

Document: [Download Publication](#)



57R-09: Integrated Cost and Schedule Risk Analysis Using Risk Drivers and Monte Carlo Simulation of a CPM Model \$

Document: [Download Publication](#)



37R-06: Schedule Levels of Detail - As Applied in Engineering, Procurement, and Construction \$

Document: [Download Publication](#)



38R-06: Documenting the Schedule Basis \$

Document: [Download Publication](#)



39R-06: Project Planning - As Applied in Engineering and Construction for Capital Projects \$

Document: [Download Publication](#)



40R-08: Contingency Estimating - General Principles \$

Document: [Download Publication](#)



41R-08: Understanding Estimate Ranging \$

Document: [Download Publication](#)



42R-08: Risk Analysis and Contingency Determination Using Parametric Estimating \$

Document: [Download Publication](#)



43R-08: Risk Analysis and Contingency Determination Using Parametric Estimating - Example Models as Applied for the Process Industries \$

Document: [Download Publication](#)



44R-08: Risk Analysis and Contingency Determination Using Expected Value \$

Document: [Download Publication](#)



45R-08: Scheduling Claims Protection Methods \$



66R-11: Selecting Probability Distribution Functions for use in Cost and Schedule Risk Simulation Models \$

Document: [Download Publication](#)



67R-11: Contract Risk Allocation - As Applied in Engineering, Procurement, and Construction \$

Document: [Download Publication](#)



68R-11: Escalation Estimating Using Indices and Monte Carlo Simulation \$

Document: [Download Publication](#)



69R-12: Cost Estimate Classification System - As Applied in Engineering, Procurement, and Construction for the Hydropower Industries \$

Document: [Download Publication](#)



70R-12: Principles of Schedule Contingency Management - As Applied in Engineering, Procurement and Construction \$

Document: [Download Publication](#)



71R-12: Required Skills and Knowledge of Decision and Risk Management \$

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72R-12: Developing a Project Risk Management Plan \$

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73R-13: Establishing Labor Productivity Norms \$

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75R-13: Schedule and Cost Reserves within the Framework of EIA-748 \$

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77R-15: Quality Control/Quality Assurance for Risk Management \$

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78R-13: Original Baseline Schedule Review - As Applied in Engineering, Procurement, and Construction \$

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79R-13: Level of Effort Planning and Execution on Earned Value Projects - Within the Framework of EIA-748 \$

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80R-13: Estimate at Completion (EAC) \$

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81R-13: Required Skills and Knowledge of Earned Value Management \$

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82R-13: Earned Value Management (EVM) Overview and Recommended Practices Consistent with EIA-748-C \$

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83R-13: Organizational Breakdown Structure and Responsibility Assignment Matrix \$

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84R-13: Planning and Accounting for Adverse Weather \$

Document: [Download Publication](#)



The history of specialized project management knowledge

14802 SEPTEMBER 1979 CO3

JOURNAL OF THE CONSTRUCTION DIVISION

EVALUATING PCM FIRM POTENTIAL AND PERFORMANCE^a

By Clyde B. Tatum,¹ M. ASCE

INTRODUCTION

In the spring of 1975 the Executive Committee of the ASCE Construction Division formed the Committee on Professional Construction Management (PCM). Structured in two subcommittees, this group has worked toward definition of PCM organization and methods of evaluation as one charge and suggestion of PCM methodologies and administration as the second. The results of first-phase efforts in each of these areas were presented at a PCM session during the 1978 Chicago ASCE convention.

PCM is one of many available approaches to contracting for construction. These approaches, also called project delivery systems (3), define the relations

15478 JUNE 1980 CO2

JOURNAL OF THE CONSTRUCTION DIVISION

PROFESSIONAL CM: THE ARCHITECT-ENGINEER'S VIEWPOINT^a

By Clyde B. Tatum,¹ George M. Gans,² Members, ASCE,
and George T. Harper³

INTRODUCTION

The professional construction management (PCM) form of organization is currently being utilized on diverse types of projects with increased frequency. As compared with other project delivery systems (2), this organizational system offers cost and schedule advantages on certain projects, and offers owners a degree of control and participation in key decisions not possible with many other delivery approaches.

In recognition of this increased usage of PCM, the Construction Division of ASCE formed a standing committee on this topic in the Spring of 1975 (1). To establish a frame of reference, this committee has defined PCM as a form of project organization in which a project management team, consisting of the owner, the construction manager (CM), and the design organization, is formed to satisfy the owner's construction needs (see Fig. 1).

15081 DECEMBER 1979 CO4

JOURNAL OF THE CONSTRUCTION DIVISION

THE TRADE CONTRACTORS' VIEW OF CONSTRUCTION MANAGEMENT^a

By Donald S. Barrie,¹ M. ASCE

INTRODUCTION

Construction Management (CM) or Professional Construction Management (PCM), as defined and practiced by the Associated General Contractors, the American Institute of Architects, the Consulting Engineers Council, the American Society of Civil Engineers and others, has come of age. No longer is there great debate about a new form of nonadversary relationships which will make obsolete and replace the traditional single general contractor, the developer, or the design-constructor. Rather, PCM is being generally accepted by the industry as another form of implementing the building process which, like other forms, is subject to successful and unsuccessful applications.

15027 DECEMBER 1979 CO4

JOURNAL OF THE CONSTRUCTION DIVISION

PROPOSED CONSTRUCTION MANAGEMENT SPECIFICATION^a

By Kenath A. Kettle,¹ F. ASCE

INTRODUCTION

During the past approx 15 yr the terms "Construction Management" and "Construction Manager" have come to designate a particular construction system utilized generally on large and complicated projects whose construction life may extend for more than 2 yr or 3-yr. The definition of these terms has never been widely accepted nor have these terms been applied in a uniform



The history of specialized project management knowledge

About CII

CII, based at The University of Texas at Austin, is a consortium of more than 140 leading owner, engineering-contractor, and supplier firms from both the public and private arenas.

These organizations have joined together to enhance the business effectiveness and sustainability of the capital facility life cycle through CII research, related initiatives, and industry alliances.

Prepared by
DO NOT DISCLOSE

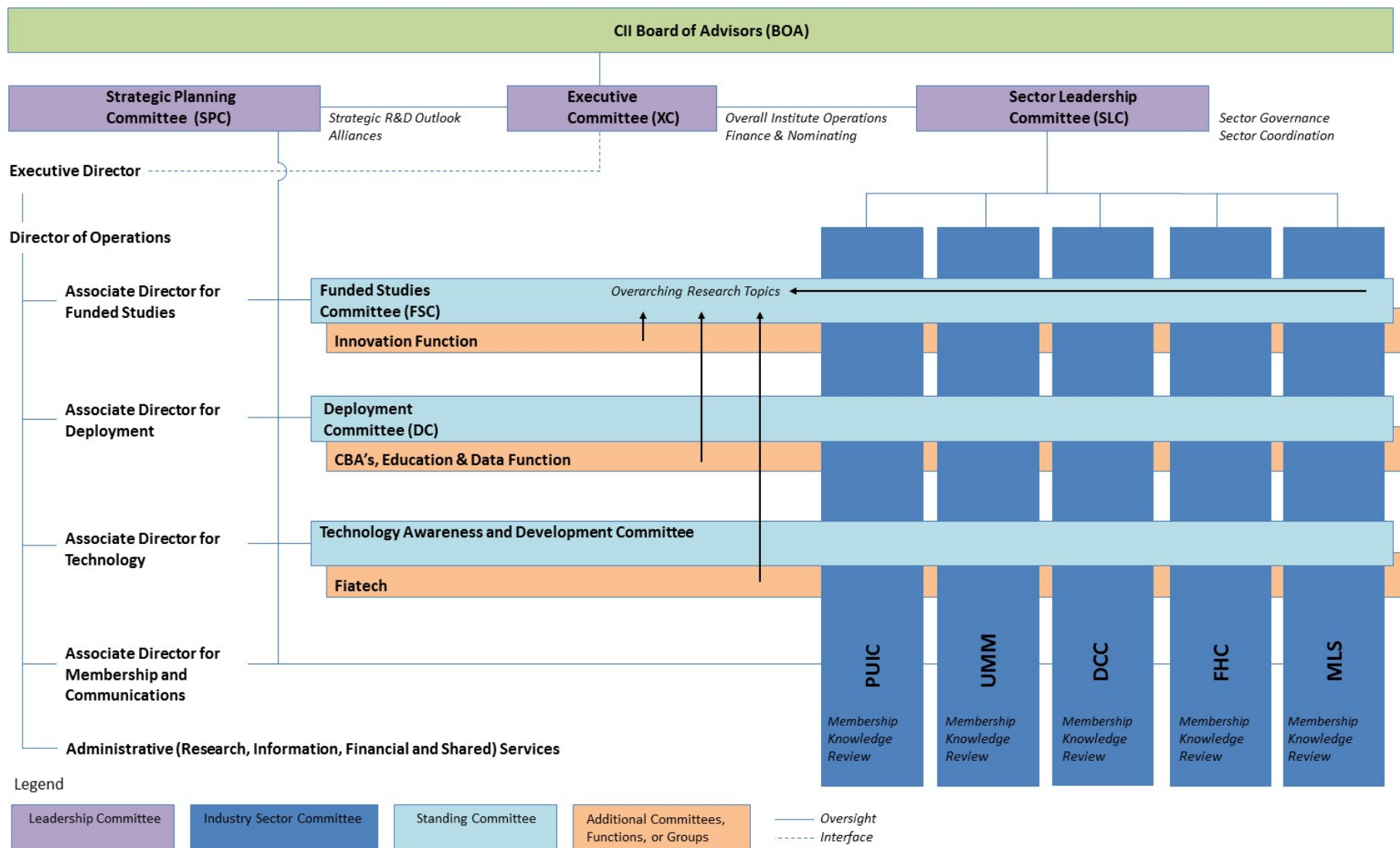




مدیریت پروژه بر اساس PMBOK به همراه الحاقیه ساخت
تاریخچه، ساختار، تغییرات و مقایسه PMBOK با استانداردهای دیگر

The history of specialized project management knowledge

CII ORGANIZATION





The history of specialized project management knowledge

Owners	Contractors	Service Providers
AdvanSix	AECOM	Accenture
Albemarle Corporation	Alfred Miller Contracting	Alvarez & Marsal
American Transmission Company LLC	APTIM	Atlas RFID Solutions
Anheuser-Busch InBev	Arcadis U.S., Inc	Autodesk, Inc.
Aramco Services Company	Baker Concrete Construction Inc.	AVEVA Solutions Ltd.
Architect of the Capitol	Barton Malow Company	Bentley Systems Inc.
Ascend Performance Materials	Bechtel Group, Inc.	Command Alkon Inc.
AstraZeneca	Black & Veatch	Construct-X, LLC
BHP Billiton	Brown & Root Industrial Services	Continuum Advisory Group
Cargill, Inc.	Burns & McDonnell	Dassault Systèmes SE
Chevron	Chiyoda Corporation	Deloitte
ConocoPhillips	Clough USA Inc.	Design + Construction Strategies
Consolidated Edison Company of New York	CRB	DyCat Solutions
Covestro LLC	Day & Zimmermann	ePM
DTE Energy	Digital Construction Works	Group ASI
Eastman Chemical Company	Emerson	Hexagon Process Power & Marine
Entergy Corporation	Fluor Corporation	Hilti Corporation
ExxonMobil Corporation	H+M Industrial EPC	I.M.P.A.C.T.

The history of specialized project management knowledge

Eastman Chemical Company	Hargrove Engineers + Constructors	O3 Solutions
ExxonMobil Corporation	Hatch	Oracle USA, Inc.
General Electric Company	JGC Corporation	Pathfinder, LLC
GlaxoSmithKline	KBR	PTAG, Inc.
Global Infrastructure Partners	Kiewit Corporation	SkyCam Aviation, Inc.
Honeywell International Inc.	Larsen & Toubro Limited	T. A. Cook Consultants Inc
INEOS Group Holdings S. A.	MasTec Power Corporation	Trillium Advisory Group Ltd
Johnson & Johnson	Matrix Service Company	Valency Inc.
Koch Industries, Inc.	McCarthy Building Companies, Inc.	Verum Partners
Los Alamos National Laboratory	McDermott International, Inc.	Zurich
LyondellBasell	PCL Constructors, Inc.	
National Aeronautics & Space Administration	PLH Group	
Naval Facilities Engineering Command	POWER Engineers, Inc.	
New York Power Authority	Richard Industrial Group	
NOVA Chemicals Corporation	Samsung C&T	
Nuclear Decommissioning Authority	Techint Engineering & Construction	
Nutrien	Technip Energies	

The history of specialized project management knowledge



Petronas

Wanzek Construction, Inc.

Phillips 66

Wood

Public Service Electric & Gas Company

Worley

Reliance Industries Limited (RIL)

Zachry Group

SABIC - Saudi Basic Industries Corporation

Shell Global Solutions US Inc.

Smithsonian Institution

Southern Company

TC Energy

Tennessee Valley Authority

The Dow Chemical Company

The Procter & Gamble Company

The Williams Companies, Inc.

U.S. Army Corps of Engineers

U.S. Department of Commerce/NIST/EL

U.S. Department of Energy

U.S. Department of State

U.S. Department of Veterans Affairs

U.S. General Services Administration

The history of specialized project management knowledge

Portal
1

Knowledge Areas

Knowledge Areas
Portal:

Portal
2

Project Phases

Portal
3

Project Functions or Roles

Portal
4

Best Practices

Portal
5

10-10 Metrics



Best Practices

Portal
4

Best Practices

Best Practices

A CII Best Practice is a process or method that, when executed effectively, leads to enhanced project performance. CII Best Practices have been proven through extensive industry use and/or validation.

[Home](#) > [Best Practices](#)

Click or tap on a Best Practice below to begin. Each Best Practice listing provides a secondary filter to narrow down results by project phase.

Advanced Work Packaging

Alignment

The condition where appropriate project participants are working within acceptable tolerances to develop and meet a uniformly defined and understood set of project objectives.

All Alignment Topic Summaries (3)

- Feasibility (2)
- Concept (3)
- Detailed Scope (3)
- Detailed Design (Engineering) (2)
- Procurement (2)
- Construction (2)
- Commission & Startup (2)
- Handover & Close-out (2)

Benchmarking & Metrics

Change Management

Constructability

Disputes Prevention & Resolution

Portals

[Knowledge Areas](#)
[Project Phases](#)
[Project Functions or Roles](#)
[10-10 Metrics](#)
[Best Practices](#)
[Home](#)

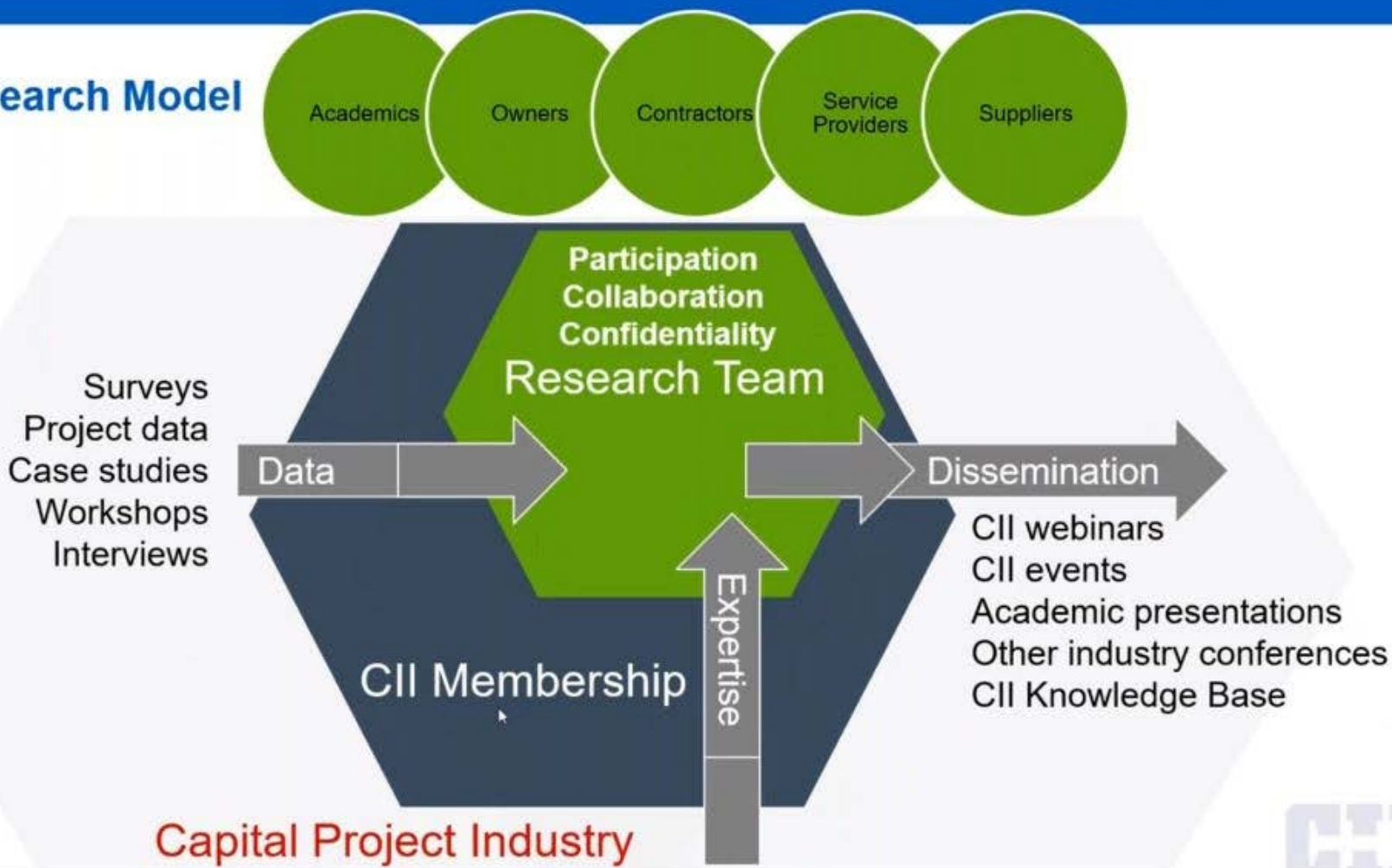
[More filter options](#)

Best Practices

[Best Practices Program](#)
[CII Best Practices Guide:](#)
[Improving Project](#)
[Performance, Version 4.0](#)
[CII Clinics](#)
[RT-166 Barriers to](#)
[Implementation](#)
[About the Best Practices](#)
[Portal](#)
[Best Practices Definitions](#)
[Glossary](#)

CII research model

CII Research Model



Value of the CII Best Practices

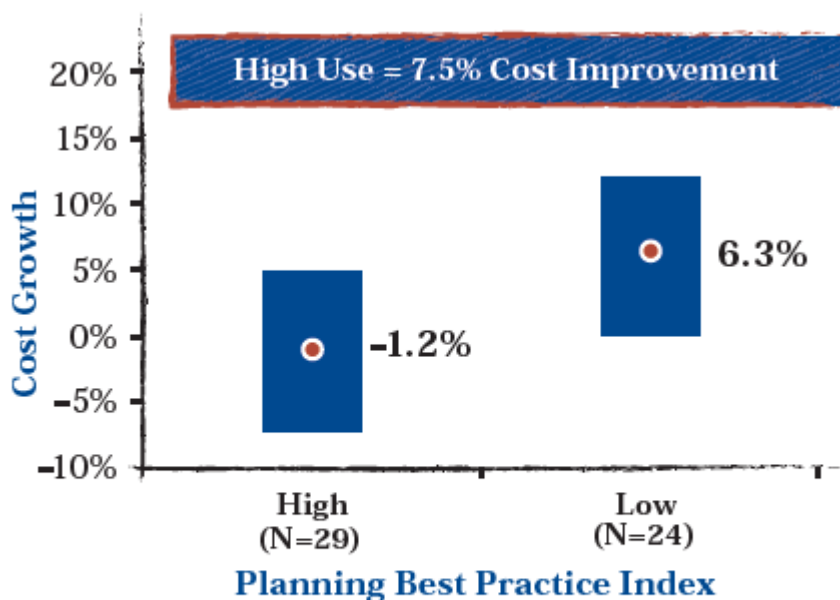


Figure 1. Comparison of CII Planning Best Practice Use on Cost Performance for Owners
(Ref: BMM2010-4, 2010 CII Value of Best Practices Report, p. 26)

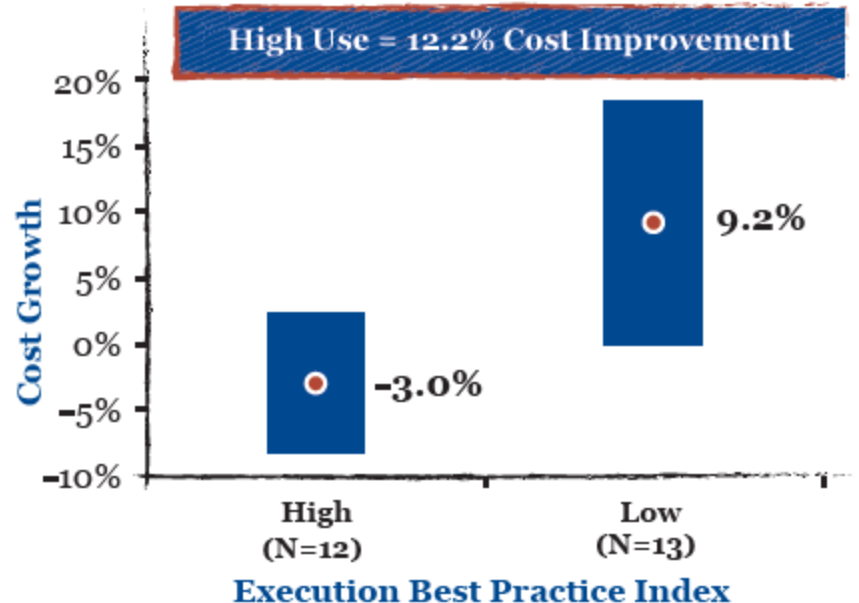


Figure 2. Comparison of CII Execution Best Practice Use on Cost Performance for Contractors
(Ref: BMM2010-4, 2010 CII Value of Best Practices Report, p. 26)



Value of the CII Best Practices

MATERIALS MANAGEMENT

16%

The benefits of a materials management program results in 16% schedule improvement.

DESIGN PLANNING & OPTIMIZATION

6.1%

High use of constructability results in 6.1% cost improvement versus low usage and reduces project schedule by 7.5%.

PROJECT PLANNING

\$25

Each \$1 spent on the PDRI process can save \$25 in return.

FRONT END PLANNING

\$3-\$10
payback

Front End Planning has a \$3-\$10 payback on every dollar spent.

CONSTRUCTION TECHNOLOGY

30-45%

Adoption of proven technology can improve construction industry productivity by 30-45%, as well as improve material predictability and reliability.

CHANGE MANAGEMENT

11.4%

The CII Knowledge Base adds value to Change Management Practices through a 11.4% cost growth improvement.

Oracle and CII



Oracle Construction and Engineering Blog

Oracle Construction and Engineering Blog

Oracle Construction and Engineering Smart Construction Platform

While we often focus on project execution (“do the project right”), capital efficiency demands excellence in capital planning and allocation (“do the right projects”) at the portfolio level. Oracle Construction and Engineering’s Smart Construction Platform supports this full lifecycle model for capital efficiency.

Oracle Construction and Engineering has worked with leaders across industries to help them achieve capital efficiency, using CII best practices and Oracle’s suite of offerings—including portfolio management, planning and scheduling, capital program management, and payment solutions.

Oracle and CII



Oracle Construction and Engineering Blog

Oracle Construction and Engineering Blog

The Construction Industry Institute

In addition, Oracle now has an agreement with the [Construction Industry Institute \(CII\)](#). We're working to deliver CII best practices methodologies into configured packages.

Over time, we'll [provide capabilities that support all 17 best practices where appropriate](#), allowing organizations to enhance company-wide adoption of these best practices. [Packages to-date include project definition rating index \(PDRI\), project risk, and advanced work packaging \(AWP\) progress.](#)





CII Tools – Communication

ی دیگر



Communications Effectiveness Report

IR 105-2 Version 2.1



Intro Project Information Proj Info Responses PM Questions

Save Reset this section

Section 2 - Project Information

Project Manager: Fill in the following descriptive information about your project.

P1. What is the name of this project?

P2. What type of facility is being constructed (e.g., process, power, civil, comm)?

P3. How would you primarily characterize this project?

P4. Is this a joint venture project?

P5. Are there multiple engineering execution locations for this project?

P6. Where is this project located (city, state, country)?

P7. What is the total installed cost of this project (in millions)?

P8. Under what type of contract is this project being executed (e.g., lump sum, cost reimbursable, cost plus fee)?

P9. What services has your company contracted or been tasked to provide on this project?

P10. Does your company have previous experience with this client/owner?

P11. Do you personally have previous experience with this client/owner?

P12. What is the scheduled duration of this project in months?

P13. Are either partnering or alliances being used on this project?

P14. Is there or will there be formalized team building on this project?

P15. What communication approach is being used to execute this project?

Section 3 - Engineering Questions

Your responses are important to the accurate assessment of the project, therefore please answer all questions possible. The questionnaire will and you MUST COMPLETE THE ENTIRE QUESTIONNAIRE PRIOR TO:

Project Name:

What is your name?

- How well do you understand what information your SUFFICIENTLY?
- How well do you understand what information OTHER GROUPS have from you?
- How often do you receive conflicting instructions from multiple sources?
- How often does poor communication or lack of coordination affect the project?
- Does the project have written procedures/practices for you to follow (e.g., Execution Plan or similar document)?
- How effective are these procedures?
- Is a Project Execution Plan (or similar document) being used?
- How often are you kept current with DESIGN CHANGES?
- How often are you kept current with SCHEDULE CHANGES?
- Do you feel you have ADEQUATE ACCESS to the people for you to perform your job?
- How often do you receive less information than you need to experience information underload?
- Overall, how effective do you think communication is on this project?
- In what phase is your project currently?

	Project Management			Engineering			Construction		
Project Name	No Response								
Survey Participant									

Communications Effectiveness Score

Overall Not Enough Data

By Stakeholder

	Project Management	Engineering	Construction
Comm. Eff. Score	Not Enough Data	Not Enough Data	Not Enough Data

By Category

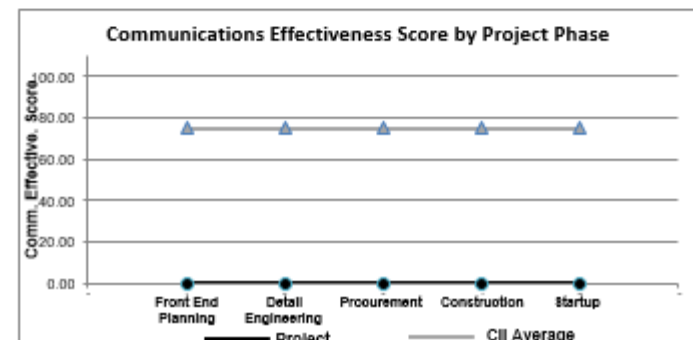
Accuracy	Not Enough Data		
Timeliness	Not Enough Data		
Completeness	Not Enough Data		
Understanding	Not Enough Data		
Barriers	Not Enough Data		
Procedures	Not Enough Data		

By Role

	Project Management	Engineering	Construction
Accuracy	Not Enough Data	Not Enough Data	Not Enough Data
Timeliness	Not Enough Data	Not Enough Data	Not Enough Data
Completeness	Not Enough Data	Not Enough Data	Not Enough Data
Understanding	Not Enough Data	Not Enough Data	Not Enough Data
Barriers	Not Enough Data	Not Enough Data	Not Enough Data
Procedures	Not Enough Data	Not Enough Data	Not Enough Data

By Project Phase

Front End Planning	Not Enough Data
Detail Engineering	Not Enough Data
Procurement	Not Enough Data
Construction	Not Enough Data
Startup	Not Enough Data



Introduction User's Guide Project

By: Alavipour, PhD, PMP, CMIT

www.dralavipour.co

A history of general project management

These are just a few!

I don't want to talk about them

Rather

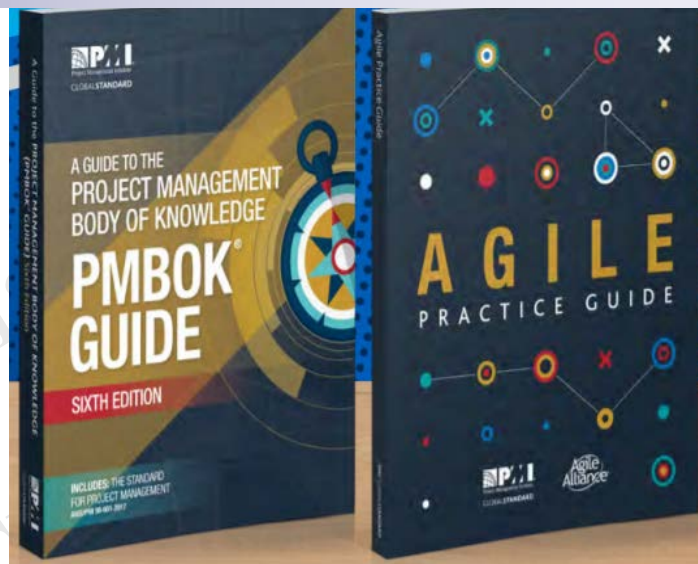
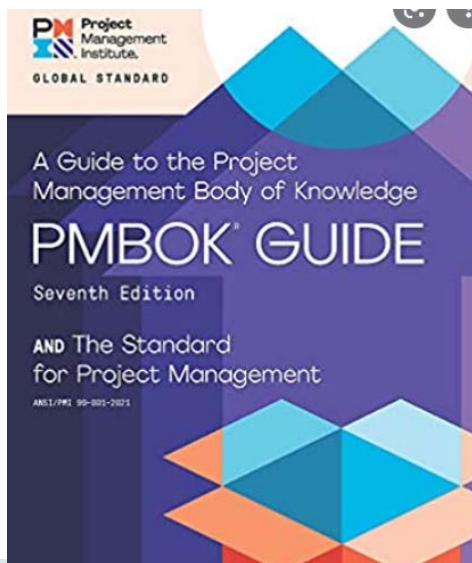
**I want to show you that PMI and its publications are not the only one and
are not the perfect one!**

Introduction to PMI

A history of PMI

- ❑ In **1969**, in Philadelphia, Jim Snyder, of Smith, Kline & French Laboratories, and Gordon Davis, of the Georgia Institute of Technology, were having **dinner** and decided there was a need for an **organization** that offered **project managers** a forum to share information and discuss their industry.
- ❑ Later that year, the **first formal meeting** of the burgeoning organization took place at the Georgia Institute of Technology in Atlanta.
- ❑ Afterwards, articles of incorporation were filed in Pennsylvania, and signed by the **five founders of PMI**.







PMI certifications

- ❑ PMI developed a **certification program** to acknowledge skills and experience in project management.
- ❑ The **Project Management Professional (PMP)** was launched in **1984** and has since become an **industry standard**.
- ❑ In **2007**, **PMP** was accredited by the **International Organization for Standardization (ISO)**, and
as of **July 2018** over **876,000 people** hold this certification.

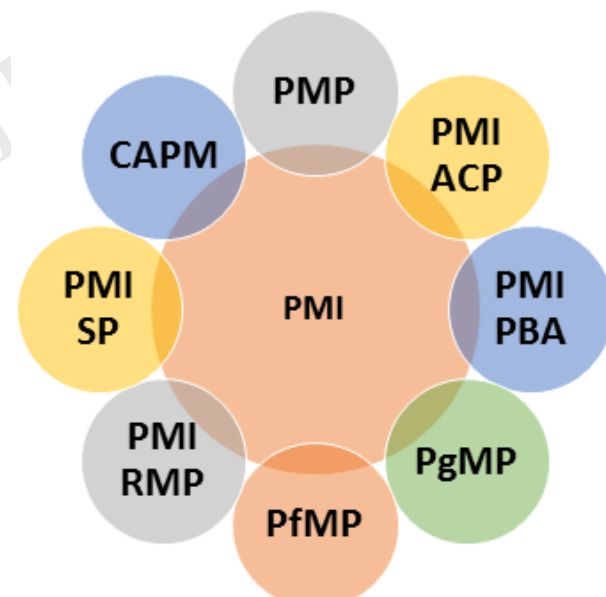
Read a document that will be uploaded in your profile!

Are there any other types of certifications in PMI?



Other types of certification besides PMP

- ❑ PMP is but one of **many certifications** that are offered by PMI.
- ❑ There is a **Certified Associate in Project Management (CAPM)**,
which is an entry-level certification that requires less project experience
than PMP to qualify.
- ❑ There are also credentials available in
 1. Program Management Professional (PgMP)
 2. Portfolio Management Professional (PfMP)
 3. PMI Agile Certified Practitioner (PMI-ACP)
 4. PMI Risk Management Professional (PMI-RMP)
 5. PMI Scheduling Professional (PMI-SP)
 6. PMI Professional in Business Analysis (PMI-PBA)



Are there more related certifications to Construction Industry?



Other types of certification besides PMP



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If you have any question

March 3, 2022: Due to the o

announced by the United States and other countries, Kryterion is unable to deliver exams through testing centers or online proctoring in Ukraine, Republic of Belarus, and the Russia Federation. We apologize for any inconvenience these sudden changes have caused.

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Currently, many testing near you, please [click](#) exam. Please [click](#) ck to test your the minimum system

ation staff at certification@aaacei.org.

Are there more related certifications to Construction Industry?

Other types of certification besides PMP



Read two documents that will be uploaded in your profile!



PMP vs. CCM

مدیریت پروژه بر اساس PMBOK به همراه الحاقیه ساخت
تاریخچه، ساختار، تغییرات و مقایسه PMBOK با استانداردهای دیگر

Certified
Construction
Manager®

CCM

VS. PMP

Project
Management
Professional®

What Is It?

The CCM is administered by the Construction Manager Certification Institute (CMCI), an affiliate of the Construction Management Association of America (CMAA). It is based on the CM Body of Knowledge, which includes CMAA's CM Standards of Practice and a library of other publications, among them the Construction Industry Institutes's (CII) Construction Best Practices.

The PMP credential is administered by the Project Management Institute (PMI) and is based on the Project Management Body of Knowledge (PMBOK).

Both credentialing programs are accredited by the **American National Standards Institute (ANSI)** under the **ISO 17024 standard** for personnel certification programs.



PMP vs. CCM

مدیریت پروژه بر اساس PMBOK به همراه الحاقیه ساخت
تاریخچه، ساختار، تغییرات و مقایسه PMBOK با استانداردهای دیگر

Certified
Construction
Manager®

CCM

VS. PMP

Project
Management
Professional®

How Many Are There?

The CCM has been granted to nearly 4,000 professionals as of the end of 2017. These numbers highlight what CMCI sees as the key differences between the two credentials.

PMI is held by some 750,000 practitioners worldwide.

CMCI prefers to be only **national** and **unique**



PMP vs. CCM

مدیریت پروژه بر اساس PMBOK به همراه الحاقیه ساخت تاریخچه، ساختار، تغییرات و مقایسه PMBOK با استانداردهای دیگر

Certified
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CCM

VS. PMP

Project
Management
Professional®

Strengths

The CM Standards of Practice contains entire chapters devoted to Project Management, Cost Management, Time Management, Quality Management, Contract Administration, Safety Management, Program Management, Sustainability, Risk Management and Building Information Modeling.

The strengths of the CCM are that it is specific to construction issues, is based on the industry's most recognized standards and best practices, and emphasizes responsible-in-charge (RIC) experience as its key qualification. This key element of leadership on the construction project is an important factor in meeting the CCM requirements.

The PMP evolved as a credential for general practitioners of project management. The PMP is primarily recognized within the information technology industry. However, in recent years, PMI has worked to expand its coverage to other fields.

For example, PMI publishes a "Construction Extension" for the PMBOK, covering a variety of topics it notes are not covered by the PMBOK or the PMP credential. Among these are construction-related health, safety, security, and environmental management; claims management; financial management in addition to cost; and management of all construction project resources, over and above human resources.



PMP vs. CCM

مدیریت پروژه بر اساس PMBOK به همراه الحاقیه ساخت
تاریخچه، ساختار، تغییرات و مقایسه PMBOK با استانداردهای دیگر

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CCM

VS. PMP

Project
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Professional®

Eligibility

To qualify for the CCM, a practitioner must have a relevant college degree and extensive industry experience, including 48 months of responsible-in-charge experience spread over all project phases.

The CCM also requires a qualifying degree in an accredited construction related degree program or additional practical experience and mastery of the CM Standards of Practice.

The PMP requires a minimum of 36 months of project management experience, including 4,500 hours leading/directing projects. The distinction between leading/directing and being responsible-in-charge is critical.

Additionally, the PMP requires 35 hours of classroom PM education.

CMCI wants to be more *specific* and *difficult* in terms of giving certifications to people



PMP vs. CCM



::Conclusion::

ACCORDING TO CMAA:

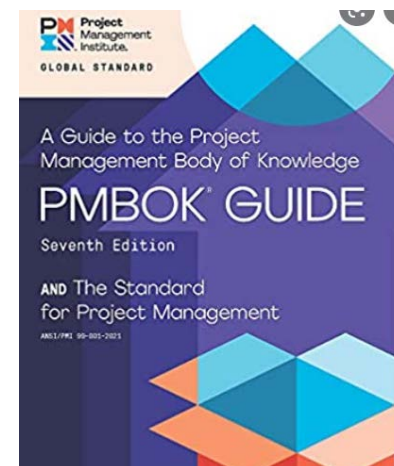
CMCI believes the **PMP** recognizes **basic project management skills** and can provide a strong **start** toward earning the more selective and **specialized CCM**. We urge the industry to use the two credentials **in a complementary way**.

Introduction to PMBOK

PMI and PMBOK

- ❑ PMI worked with the American National Standards Committee and Europe's International Project Management Association to develop its standards.
- ❑ By 1980, those efforts were standardized into **project management procedures and approaches**.
- ❑ By 1996, PMI produced the first Project Management Body of Knowledge (PMBOK).

How the process has been conducted?



Disclaimer of PMI

- ☐ Developed through a **voluntary consensus** standards development process.
- ☐ This process **brings together volunteers** and/or seeks out the **views of persons** who have an **interest in the topic** covered by this publication.
- ☐ PMI does **not write the document**
- ☐ PMI does **not independently** test, evaluate, or verify
 1. **Accuracy** or **completeness** of any information
 2. **Soundness** of any judgments

contained in its standards and guideline publications.

What included in these
engagements?



Customer- and End-User-Centered Design

❑ These **engagements** have included:

- ▶ **Online surveys** to representative samples of **PMI stakeholders**;
- ▶ **Focus groups** with PMO leaders, project managers, agile practitioners, project team members, and educators and trainers; and
- ▶ **Interactive workshops** with **practitioners** at various PMI events around the globe.

How PMBOK has been evolved?

Evolution of key changes in the PMBOK Guide



Project Management Institute founded in 1969

Project Management Professional certification began in 1984

PMBOK 1st edition released in 1996

PMBOK 2nd edition released in 2000

PMBOK 3rd edition released in 2005

PMBOK 4th edition released in 2008

PMBOK 5th edition released in 2013

PMBOK 6th edition released in 2017

PMBOK 7th edition released in 2021



The PMI's Project Management Body of Knowledge

Publication Dates for 1st to 7th Editions

Evolution of key changes in the PMBOK Guide



Evolution of key changes in the PMBOK Guide

PMBOK® Guide Edition	Key Evolutionary Changes
1996	• Distinguished as “a guide to the body of knowledge,” rather than the body of knowledge for project management. • Reflected the subset of the project management body of knowledge that is “generally accepted,” meaning applicable to most projects most of the time with widespread consensus that practices have value and usefulness. • Defined project management as “the application of knowledge, skills, tools, and techniques to project activities in order to meet or exceed stakeholder needs and expectations [emphasis added] from a project.” • Specific decision to shift to a process-based standard driven by a desire to show interactions among Knowledge Areas; create a robust and flexible structure; and recognize that ISO and other standards organizations were establishing process-based standards.
Third (2004)	• First edition to incorporate the “ANSI Standard” logo on the cover. • First edition to formally designate <i>The Standard for Project Management of a Project</i> separate and distinct from the Project Management Framework and Body of Knowledge. • Included material “generally recognized as good practice on most projects most of the time.” • Defined project management as “the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements.”
Sixth (2017)	• First edition to make a distinct separation between the ANSI standard and the guide. • First time “agile” content is incorporated into the text, not just referenced in examples. • Expansion of Knowledge Area front material, including key concepts, trends and emerging practices, tailoring considerations, and considerations for agile/adaptive environments.

First, let's look at some **criticisms** about the past editions!

ذکر مطالب فوق تنها

Review of other views

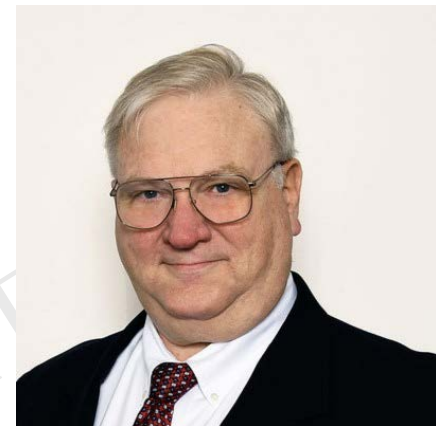
Raymond Lemming:

□ Education:

- ❖ International Law and Construction
- ❖ Civil Engineering, Structural
- ❖ MBA
- ❖ Psychology

❖ Work experience

- ❖ Professor of IIT (35 years) and teaches PMBOK, Law, MBA and many courses in construction management and civil engineering.
- ❖ 31 years of experience in construction industry in 25 countries
 - ❖ Construction claims administrator (13 years)
 - ❖ Forensic advisor in construction projects (16 years)
 - ❖ Lawyer in construction industry (31 years)



Review of other views

❑ The construction industry is:

- ❖ **Project-centric** by its **very nature**.
- ❖ Our organizations **morph** on almost a **daily basis** as we go from an **empty lot** to a completed skyscraper or airfield.
- ❖ We **don't run assembly lines** or **manufacture** anything in a **steady state environment**.
- ❖ Our **management tools** are based on that **"chaos"** as well as our **document systems**.

Review of other views

❑ The PMI/PMBOK is struggling to be project centric.

- ❖ It is an **outgrowth** of **Industrial Engineering**.
- ❖ All the textbooks have a common theme of **Project Managers fighting** with **Line Managers**.
- ❖ It **discusses in depth** trying to **create a project centric organization** in an **industrial environment**.
- ❖ Construction **was not even** in the **original PMBOK** but has been **added** as an **“extension”**.

Review of other views

❑ As a social psychologist with international experience:

- ❖ The **U.S. Construction Management system** is a result of the use of **subcontracting** and **capitalism**.
- ❖ We only **bring** in the **assets** we need to do the job by **tailoring** the **workforce** (Task Organize) and by **specializing many skills**.

- ❑ Bottom line is in **those countries** that do **not have a construction environment** similar to the **U.S.**, people see the **PMBOK** approach and it appears like a **good thing**. And it is, for **them**.

It is a great improvement over what they have for Construction Management but it is not optimum.

So, what changes have occurred to the new PMBOK?

Process of new edition

- ❑ Since 1987, **The Standard for Project Management** has represented a **process-based standard**.
- ❑ The Standard for Project Management included in the **PMBOK® Guide** aligned project management discipline function
around a collection of business processes.

So what happened then?

Process of new edition

- ❑ A global community of practitioners from different industries and organizations, in different roles, and working on different types of projects have developed and/or provided **feedback on drafts** of the standard as it has **evolved for this edition**.
- ❑ In addition, the PMBOK® Guide – Seventh Edition coleaders and staff **reviewed** other bodies of knowledge and works to **identify principle concepts** embedded in those texts.

How much is this true?



Process of new edition

First, let's look at the **resume** of some of the **PMBOK's authors...**



PMBOK's authors – 7th Edition

Cynthia Snyder Dionisio, Chair,

MBA, PMI-ACP, PMP

Michael Griffiths, Cochair, PMI-ACP, PMP

Nicholas Clemens, PMI-ACP, PMP

Jean Luc Favrot, PMI-ACP, PMP, SPC5

Jesse Fewell, CST, PMI-ACP, PMP

Emily Jingjing Hu, MPM, PRINCE2, PMP

Betsy Kauffman, PMI-ACP, PMP, ICP-ACC

Nader K. Rad, PMP

Giampaolo Marucci, PhD, PMI-ACP,

PMP, CSM

Klaus Nielsen, MBA, PMI-ACP, PMP

Maria Specht, MSc, PMP, NLP

Maricarmen Suarez, MBA, PMP, PgMP

Laurent Thomas, PhD, SPC, PMI-ACP, PMP

Jorge Federico Vargas Uzaga, PMP

How many of them are construction based?

Let's see...

PMBOK's authors – 7th Edition



Cyndi Snyder Dionisio

Practice Lead for Project, Program and Portfolio Management

Experience



Practice Lead for Project, Program and Portfolio Management

International Institute for Learning

Feb 2022 - Present · 3 mos



LinkedIn Learning Instructor

LinkedIn · Contract

Feb 2020 - Present · 2 yrs 3 mos



Technical Author

John Wiley and Sons

Jan 2008 - Present · 14 yrs 4 mos

Author and Subject Matter Expert for project management. Have published multiple books under the John Wiley label and several under the For Dummies label.



Principal

Cynergy2

Feb 1994 - Feb 2022 · 28 yrs 1 mo

I am currently self employed. I do contract work for project management consulting, curriculum design, classroom and online training. I have published 8 books on project management and trained over ...see more



Lead

Project Management Institute

Jun 2019 - Dec 2020 · 1 yr 7 mos

Leading an international team of SMEs to develop the 7th Edition of the Project Management Body of Knowledge

PMBOK's authors – 7th Edition



Mike Griffiths

Agile consultant and trainer. Helping your agile teams work better together.

Experience



President

Leading Answers

May 2007 - Present · 15 yrs

Canmore, Canada Area

I help people be successful, by solving issues within project management and leadership. I am engaged in both traditional and agile methods. I served on the board of directors for the Agile Alliance and th ...see more



DA Contributor

Project Management Institute · Permanent Full-time

Jan 2021 - Present · 1 yr 4 mos

Canada



Freelance Toptal Project Manager

Toptal · Freelance

Jun 2020 - Present · 1 yr 11 mos



SeminarsWorld Instructor

Project Management Institute (PMI)

May 2007 - Present · 15 yrs

Instructor for the PMI "Agile Project Management" 2 Day course.



Volunteer

PMI Southern Alberta Chapter

2006 - Present · 16 yrs 4 mos

Presenter and Mentor

PMBOK's authors – 7th Edition



Nick Clemens, PMP PMI-ACP

Training Program Manager at Addx Corporation

Experience



Addx Corporation

9 yrs 9 mos

Department of Homeland Security (DHS)



Lead Instructor

Aug 2012 - Present · 9 yrs 9 mos



Lead instructor / Program Manager

Aug 2012 - Present · 9 yrs 9 mos

Provides acquisition training support for FAC P/PM Certification.



Member / Volunteer

Project Management Institute (PMI)

1995 - Present · 27 yrs 4 mos

PMI PMBOK 7 Core Team Member, Risk Standard, Primary Contributor, Portfolio Management Update Core Team Member, Primary Contributor to the PMI Navigating Complexity: A Practice Guide, "PMBOK® ...see more



Instructor

Project Management Training Institute

Mar 2012 - Sep 2012 · 7 mos

Teaches Project Management Professional (PMP) classes



Owner

Analytic Risk Management Inc.

Jun 2006 - Sep 2012 · 6 yrs 4 mos

Washington DC Baltimore MD area

PMBOK's authors – 7th Edition



Jean-Luc FAVROT

Agile innovation | Project Management - CEO - PMP, PMI-ACP, DASSM, CSM, CSPO, SAFe SPC5, UXC, PRINCE2 Agile, M3.0, PRINCE2

Experience



Directeur - Consultant - Formateur - Conférencier

Decisif Pacifique (New Caledonia) and Projectima (mainland France)

Sep 2008 - Present · 13 yrs 8 mos

Nouvelle-Calédonie - Polynésie Française & Montpellier (France)

Décisif Pacifique et Projectima sont des cabinets de conseil en gestion de projet et innovation agile basés à Nouméa et Papeete (Nouvelle-Calédonie et Polynésie Française) et à Montpellier (France). Nous ir ...see more



Directeur de Projet SURFI - Direction du Budget et des Affaires Financières

Government of New Caledonia (French territory, South Pacific)

Mar 2006 - Sep 2008 · 2 yrs 7 mos

New Caledonia

Directeur de projet SURFI (Système Unifié des Ressources Financières)

Refonte simultanée du SI financier (progiciel, cadre comptable, procédures) de 3 collectivités territ ...see more



Consultant indépendant en systèmes d'information

JLF Consulting

Mar 2001 - Mar 2006 · 5 yrs 1 mo

France et international

Direction de projet, assistance à maîtrise d'ouvrage, formation

...see more



Chef de département à la Direction de l'Informatique du Courrier

French postal services (La Poste)

Jun 1996 - Mar 2001 · 4 yrs 10 mos

Montpellier and Paris

Salarié à la Direction de l'Informatique du Courrier de La Poste

Responsable de l'informatique décisionnelle de La Poste ...see more

PMBOK's authors – 7th Edition



Jesse Fewell

Innovation, Collaboration, Agility



Founder & Principal Coach

Fewell Innovation, LLC

Dec 2013 - Present · 8 yrs 5 mos

Washington D.C. Metro Area

Helping professionals and organizations break through the status quo to higher levels of performance.



About Jesse Fewell

Jesse tells us what energizes him about his work.



Agile Leadership Guide

Agile Leadership Journey

Feb 2019 - Present · 3 yrs 3 mos

Washington D.C. Metro Area

Serving as part of a globally aligned community of educators and coaches, who inspire and catalyze agile leaders and their organizations.



Government Agile Coach in Residence

FWD think, LLC

May 2012 - Present · 10 yrs

Washington D.C. Metro Area

I partner with FwdThink to build agility into Federal, State, and Local governments. We do this by transforming contentious relationships into collaborations, equipping talent with modern skillsets, ...see more



Chief Technology Officer

DATos, Inc.

Dec 2013 - Jul 2016 · 2 yrs 8 mos

I'm working with DATos to guide the management, development, and Agile deployment of DATos payment data sources and API's. The DATos platforms provide simplified access to complex payment data and signals

PMBOK's authors – 7th Edition



Giampaolo Marucci

PMBOK-7 co-writer. Dr. Computer Science. PMI Authorized Training Partner (ATP) Instructor for PMP and Disciplined Agile. Consultancy, Trai...



Project Management

IBM

Mar 2022 - Present · 2 mos

Expert Labs, Software Migration Project Office, IBM Software



Project Management Institute

2 yrs 9 mos

- **PMI ATP Instructor - PMP, DASSM, DASM**

May 2021 - Present · 1 yr

Istruttore Autorizzato dal Project Management Institute (PMI) per l'erogazione di corsi di formazione al sostenimento degli esami di certificazione Project Management Professional (PMP) e Disciplined A ...see more

- **Membro del core team di realizzazione di PMBOK Guide settima edizione del PMI**

Aug 2019 - Present · 2 yrs 9 mos



Aubay

8 yrs 2 mos

- **Program Manager, Agile Practitioner**

May 2017 - Feb 2022 · 4 yrs 10 mos

Roma, Italia

Consulenza in Project Management, Program Management, Agile Practitioning, DevOps, Continuous Delivery, IT Governance per banche, utilities e pubblica amministrazione

- **Program Manager, Project Manager, Software Architect**

Jan 2015 - May 2017 · 2 yrs 5 mos

Rome Area, Italy

Chris Carson's opinion

How many of them are construction based?

Nearly all of them come from **IT** and **Agile** projects.

*No one with the **expertise** of construction planning, scheduling,
contract, claim, risk, etc.*

*This is the reason that **many of construction experts** don't believe
that PMBOK and PMP add many value to construction industry.*

Is there anyone? Let's see



Chris Carson's opinion

About

Chris is Enterprise Director of Program & Project Controls and Vice President for ARCADIS U.S., the leading global Engineering and PMCM firm. He has over 40 years' experience in Program/Construction Management, specializing in Program/Project Controls disciplines of Planning & Scheduling, Cost Management, Risk Management, Document Control, and Forensic Analysis. His background includes educational, municipal, commercial, industrial, governmental, military, and medical projects, and other industries including facilities, infrastructure/transportation, water and waste water treatment and utilities, and environmental projects.

Mr. Carson is a recognized thought leader in industry associations including CMAA, AACE International, RICS, PMI, and the Guild of Project Controls. He has presented over 500 industry sessions, authored or contributed to over 25 publications, and received multiple awards, such as the 2021 AACE International "O.T. Zimmerman Founder's Award", the 2011 AACE International "Technical Excellence" award, the 2009 PMI College of Scheduling award for "Significant Contributions to the Scheduling Industry", and the "Chairman's Award" from CMAA in 2006 for contributions to the CM industry.

He was selected as an AACE International Fellow in 2013, the first founding Fellow of Project Controls by the International Guild of Project Controls in 2014, and a Fellow of RICS in 2015 for individual achievement "as well as demonstrating significant career achievements and successes, it demonstrates a passion for developing the industry, sharing knowledge and supporting others in reaching their goals".

Mr. Carson is a CMAA Certified Construction Manager (CCM), a designated Quantity Surveyor by RICS, a PMI Project Management Professional (PMP), an AACE International Planning and Scheduling Professional (PSP), Decision and Risk Management Professional (DRMP), and Certified Estimating Professional (CEP).

Chris Carson's opinion



I worked with PMI for ten years in the PMI College of Scheduling, and when they forced us to roll back into PMI as a Community of Practice, it didn't take two years before they dumped our great conferences, in spite of them claiming that they would enhance our conferences. Then when we published our book in [2014](#), "CPM Scheduling for Construction - Best Practices and Guidelines", PMI wanted to break it up into short articles to go on their website and we rejected that. Then we wanted to develop the next book in the series, and they decided they didn't want to do it under PMI. So essentially they took a good ongoing volunteer effort that had produced a significant book and was putting on a good annual conference and forced it all to close.

r. Alavipour
DISTRIBUTE

Chris Carson's opinion



I'm under the impression that PMI is only interested in driving membership fees. I think the PMP and the PMBOK is a good certificate and body of knowledge for general project management but not that useful for construction or program management. And PMI's program management effort is targeted towards defense and non-construction programs. I don't think they will ever provide much value for construction management or even construction program management.

Dr. Alavipour
DO NOT DISTRIBUTE



Chris Carson's opinion



I retain my membership and keep my PMP current, but do very little beyond that with PMI. I find AACE, CMAA, CII, RICS, all to be more useful for construction.

Prepared by Dr. Alavipour
DO NOT DISTRIBUTE

PMI will change its approach?

**PMI has also accepted that and has intended to change its view to
construction industry...**

HOW?

Prepared by
DO NOT DISTRIBUTE

CPBEP Certifications for construction experts

Construction Professional in Built Environment Projects (CPBEP)TM

7 Courses (3 micro-credentials) + Capstone Exam:

1. Built Environment Project Communication Pro (MC)
2. Scope and Change Order Management in the Built Environment
3. Interface Management in the Built Environment
4. Built Environment Performance and Materials Management Pro (mc)
5. Built Environment Technology and Innovation Pro (mc)
6. Contract and Risk Management in the Built Environment
7. Execution Planning in the Built Environment



**PMI accepted its drawbacks and introduced new program and courses
for construction industry, however many experts believe they fail!**

Why?

CPBEP Certifications for construction experts

Certifications

Construction Professional in Built Environment Projects (PMI-CP)TM



So let's come back to the process of new edition!

Process of new edition

PMBOK® Guide 6th Edition

A Guide to the Project Management
Body of Knowledge

- Introduction
- 10 Knowledge Areas

The ANSI Standard for
Project Management

- 5 Process Groups

Appendices, Glossary, Index

PMBOK® Guide 7th Edition

The ANSI Standard for
Project Management

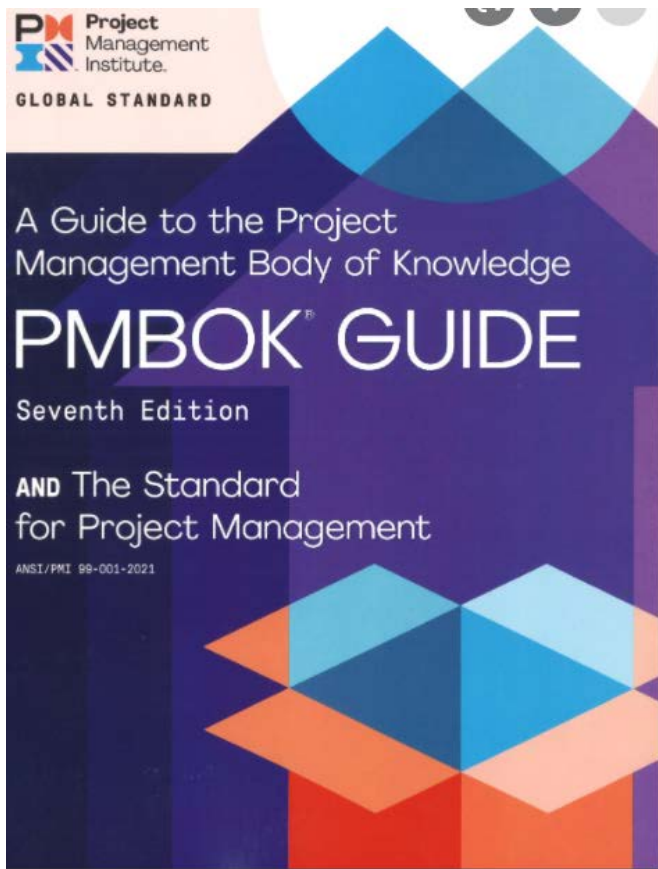
- Introduction
- System for Value Delivery
- 12 Project Management Principles

A Guide to the Project Management
Body of Knowledge

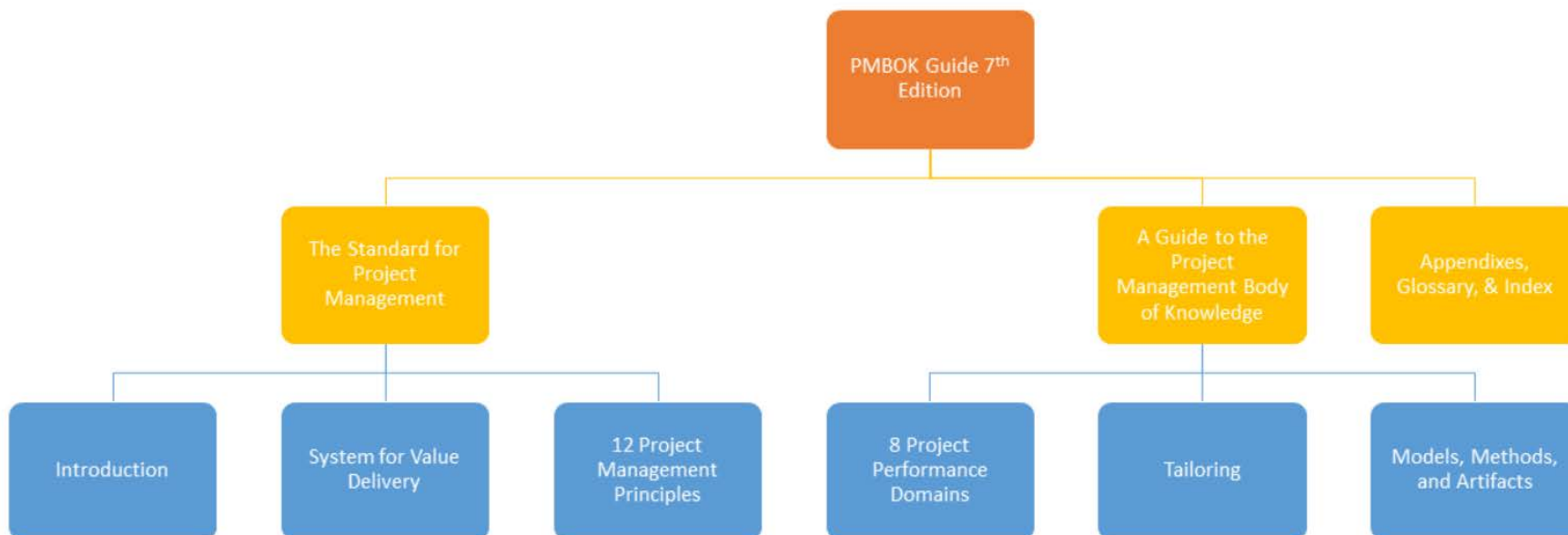
- 8 Project Performance Domains
- Tailoring
- Models, Methods, and Artifacts

Appendices, Glossary, Index

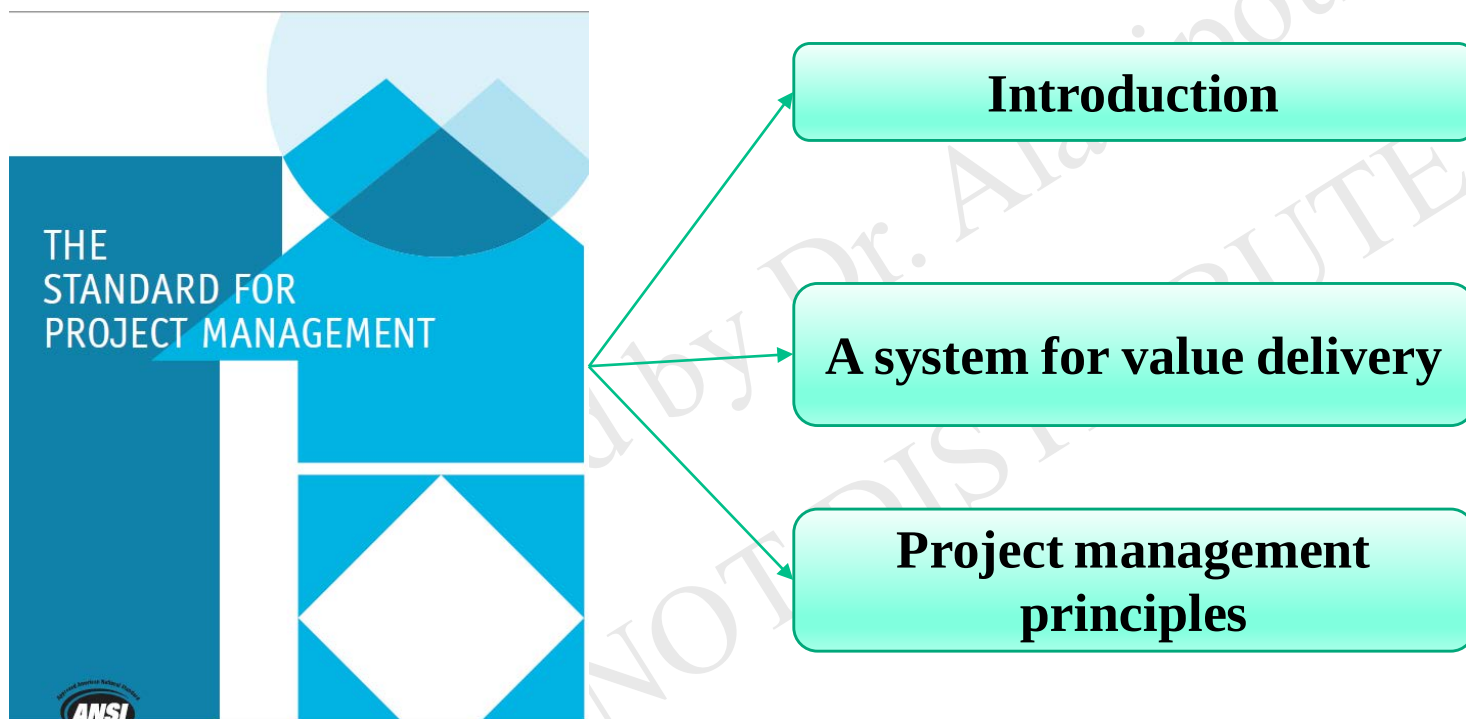
Summary of changes – The structure of PMBOK



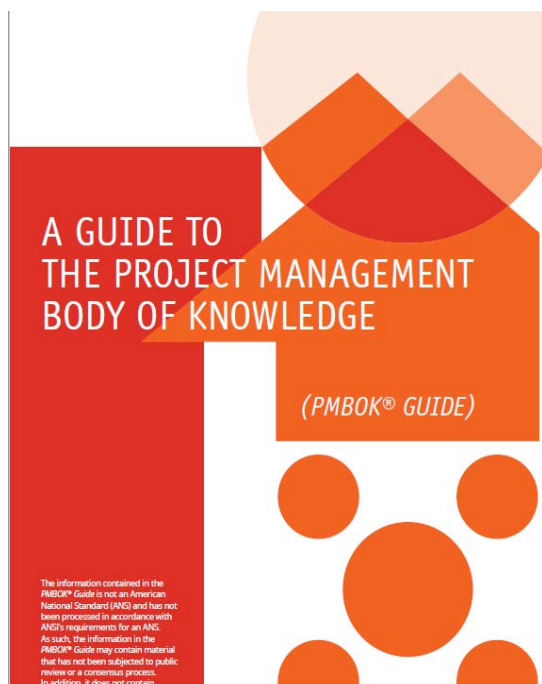
Summary of changes – The structure of PMBOK



Summary of changes – Standard



Summary of changes – Guide



Introduction

**Project performance
domains**

Tailoring

**Models, methods &
artifacts**

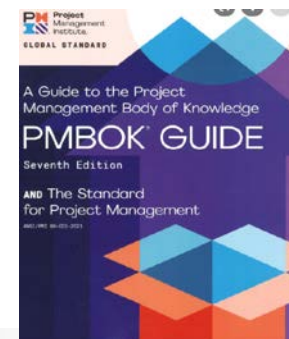
What are the project management processes in PMBOK 7?

- ❑ They're **almost gone**.
- ❑ The project management processes of previous editions of the PMBOK Guide all presuppose a **Predictive approach** to Project Management.

Or, at least, a **hybrid approach**, within a predictive framework.

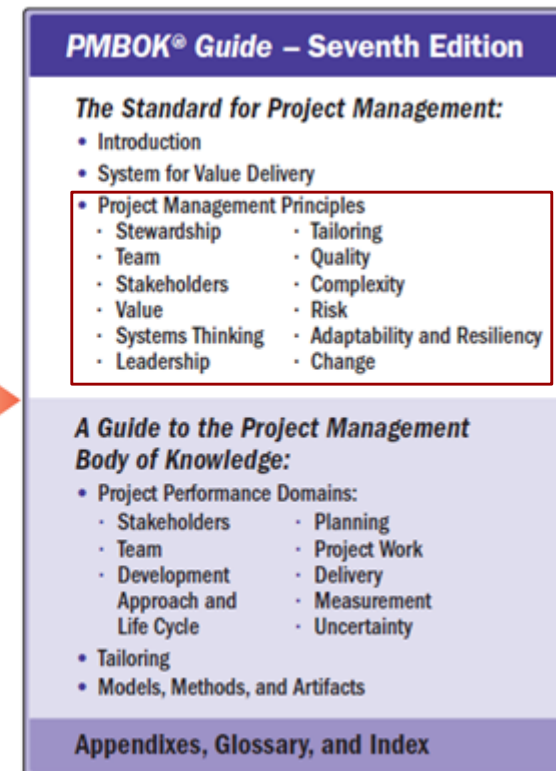
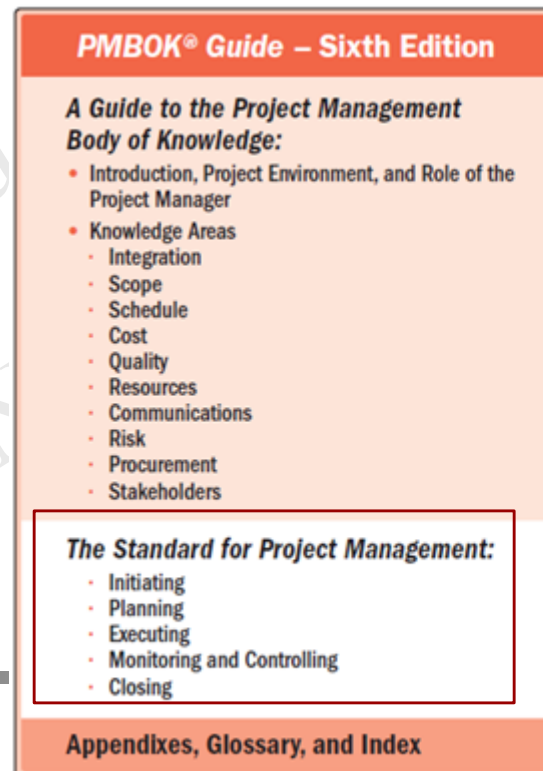
- ❑ PMBOK 7 makes no such presupposition.
 - ❖ The process groups are merely **one model** we can draw upon.
 - ❖ They appear on pages **170-1** in a few paragraphs, in the section on models.
 - ❖ Processes are **not deprecated**. They are **simply identified as a useful model** to draw upon when **you need it**.

So what happened to these processes?



Summary of changes – Principles-based

- ❑ With project management **evolving more rapidly** than ever before, the **process-based orientation** of past editions **cannot** be maintained in a manner **conducive** to reflecting the **full value delivery landscape**.
- ❖ Therefore, **this edition shifts** to a **principles-based standard** to
 1. Support effective project management
 2. Focus more on intended outcomes rather than deliverables



So how the process conducted?

Summary of changes – Principles-based

❑ To date, the **global project management community** has embraced the **shift** of this standard toward a **set of principle statements**.

❖ The **principle statements** **capture** and **summarize** generally accepted objectives for

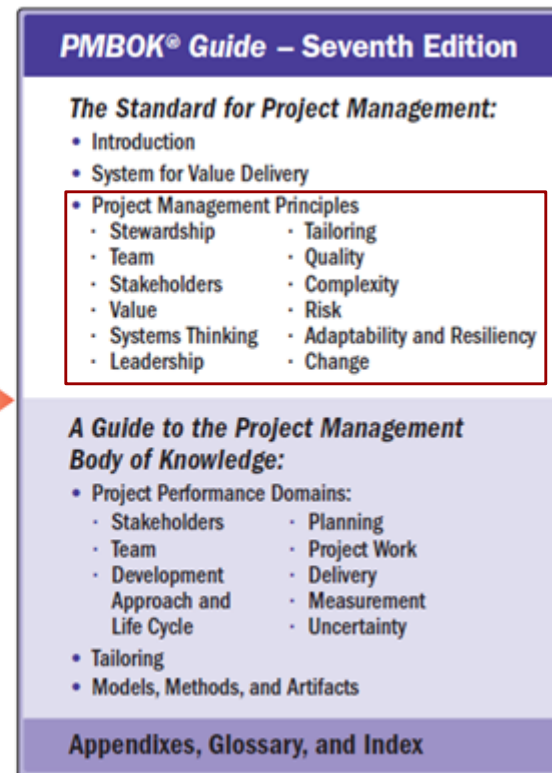
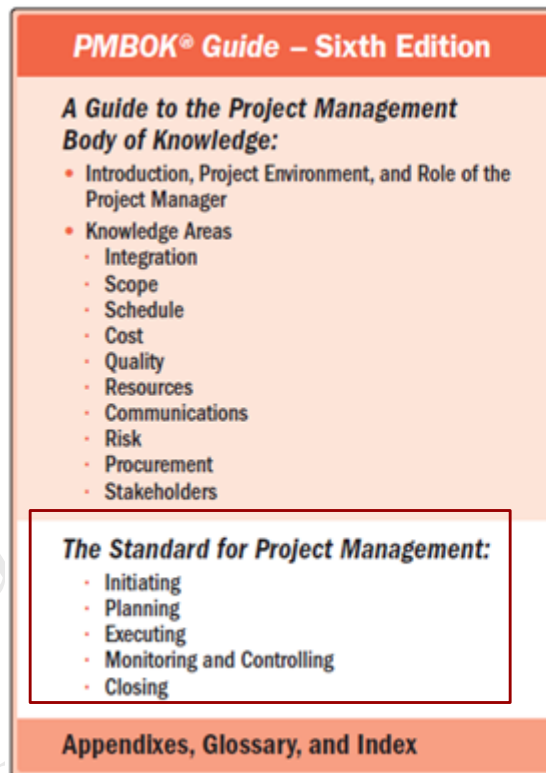
1. **Practice** of project management
2. Its **core functions**

*The principle statements provide **broad parameters** within which **project teams can operate and offer** many ways to remain **aligned** with the **intent of the principles**.*

So what happened with regard to principle statements?

Summary of changes – Principles-based

□ While effective in supporting good practice, process-based standards are prescriptive by their very nature.



Does this mean that the current version negates the past editions?

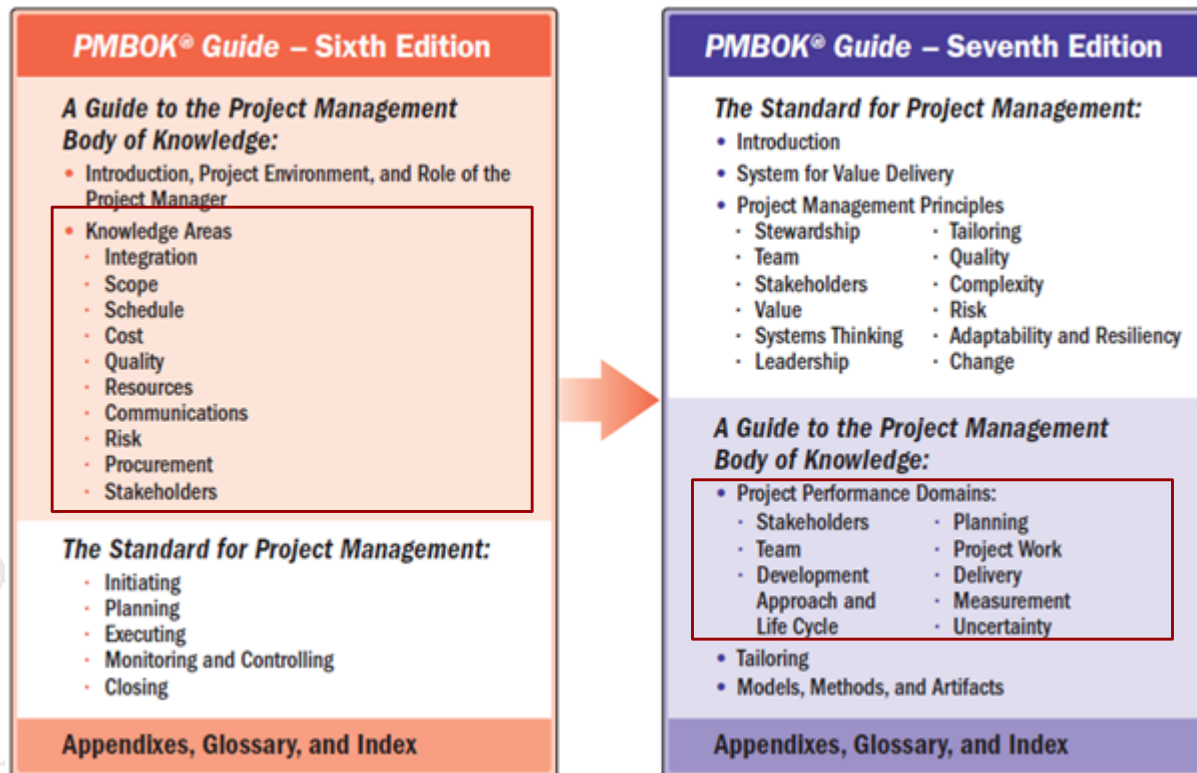
Summary of changes – Principles-based

Nothing in this edition of *The Standard for Project Management* or *A Guide to the Project Management Body of Knowledge* negates alignment with the process-based approach of past editions. Many organizations and practitioners continue to find that approach useful for guiding their project management capabilities, aligning their methodologies, and evaluating their project management capabilities. That approach remains relevant in the context of this new edition.

What other changes occurred to the new version?

Summary of changes – System view of project management

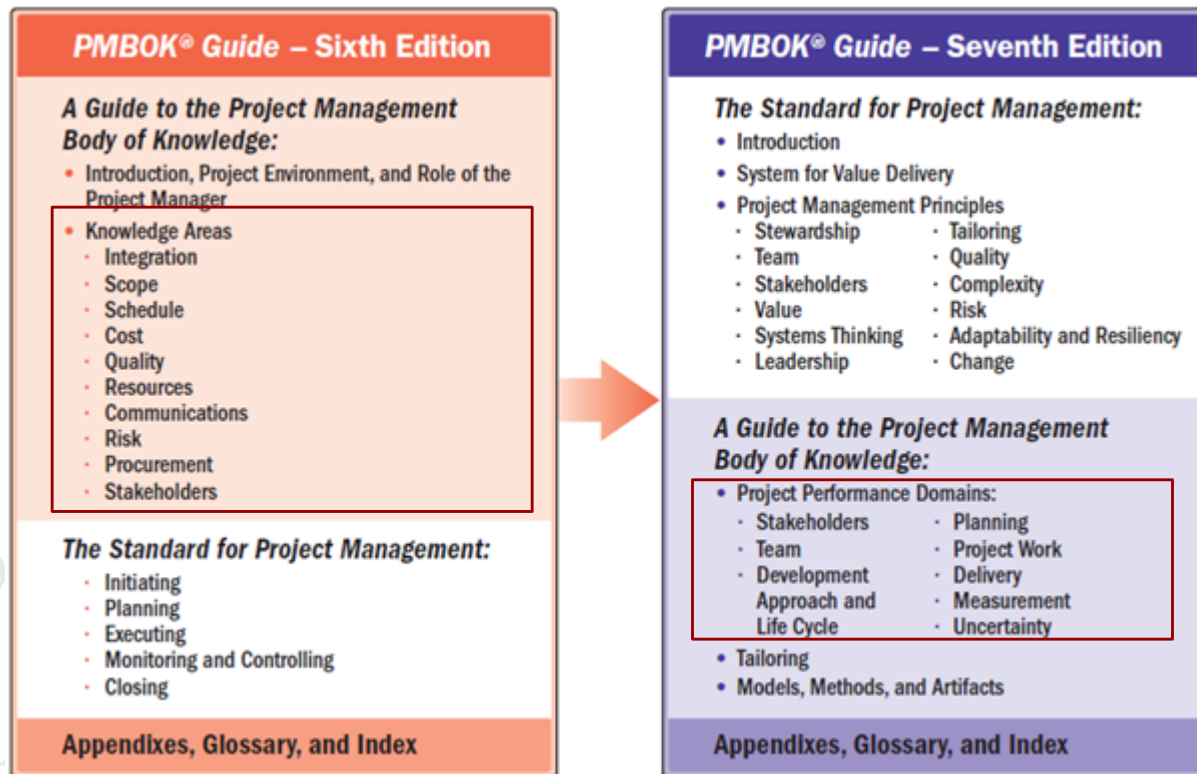
- ❑ This shift begins with a **systems view of value delivery**.
- ❑ A systems focus for value delivery **changes the perspective** from
 - ✓ One of **governing** portfolios, programs, and projects to
 - ✓ Focusing on the **value chain**



Summary of changes – Performance domains

❑ This systems view reflects a **shift** from the **Knowledge Areas** in past editions of the PMBOK® Guide to **eight project performance domains**.

❑ A **performance domain** is a **group of related activities** that are critical for the **effective delivery** of project outcomes.



How?

Summary of changes – Performance domains

PMBOK® 6th Edition

10 Knowledge Areas

1. Integration Management
2. Scope Management
3. Schedule Management
4. Cost Management
5. Quality Management
6. Resources Management
7. Communications Management
8. Risk Management
9. Procurement Management
10. Stakeholder Management

PMBOK® 7th Edition

8 Performance Domains

1. Stakeholders
2. Team
3. Development Approach and Life Cycle
4. Planning
5. Project Work
6. Delivery
7. Measurement
8. Uncertainty

Comparison of 6th and 7th Editions of the PMBOK® Guide
8 Performance Domains replace the 10 Knowledge Areas

PMBOK Guide 6th and 7th Editions

What does that mean?

Summary of changes – Performance domains

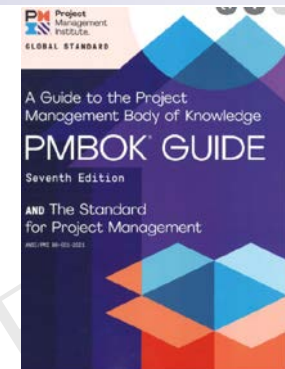
- ❑ The **performance domains** represent a project management system of interactive, interrelated, and interdependent **management capabilities** that **work in unison** to achieve **desired project outcomes**.
 - ❖ As the **performance domains** interact and react to each other, **change occurs**.
 - ✓ Project teams continuously
 1. Review
 2. Discuss,
 3. Adapt, and
 4. Respond

*to such changes with the **whole system in mind**—
not just the specific performance domain in
which the **change occurred**.*

How the new version has been evolved?

Summary of changes – Tailoring

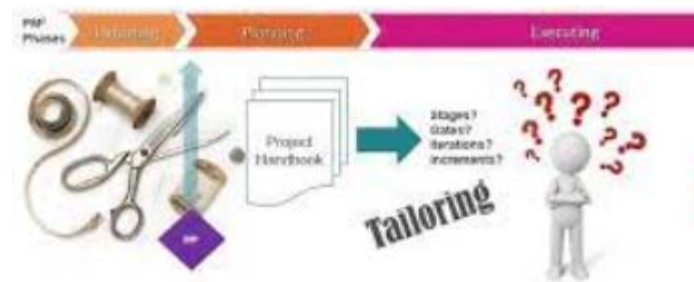
- ❑ Previous editions of the PMBOK® Guide emphasized the **importance of tailoring** the project management approach to the **unique characteristics of each project** and its context.
- ❑ The Sixth Edition specifically **incorporated considerations** to help project teams **think about how to tailor** their approach to project management.
 - ❖ That content was included in the **front matter** of each of the Knowledge Areas and **provided considerations** for all types of **project environments**.
 - ❖ This edition **further expands** upon that work with a **dedicated section** on **Tailoring** in the PMBOK® Guide.



How?

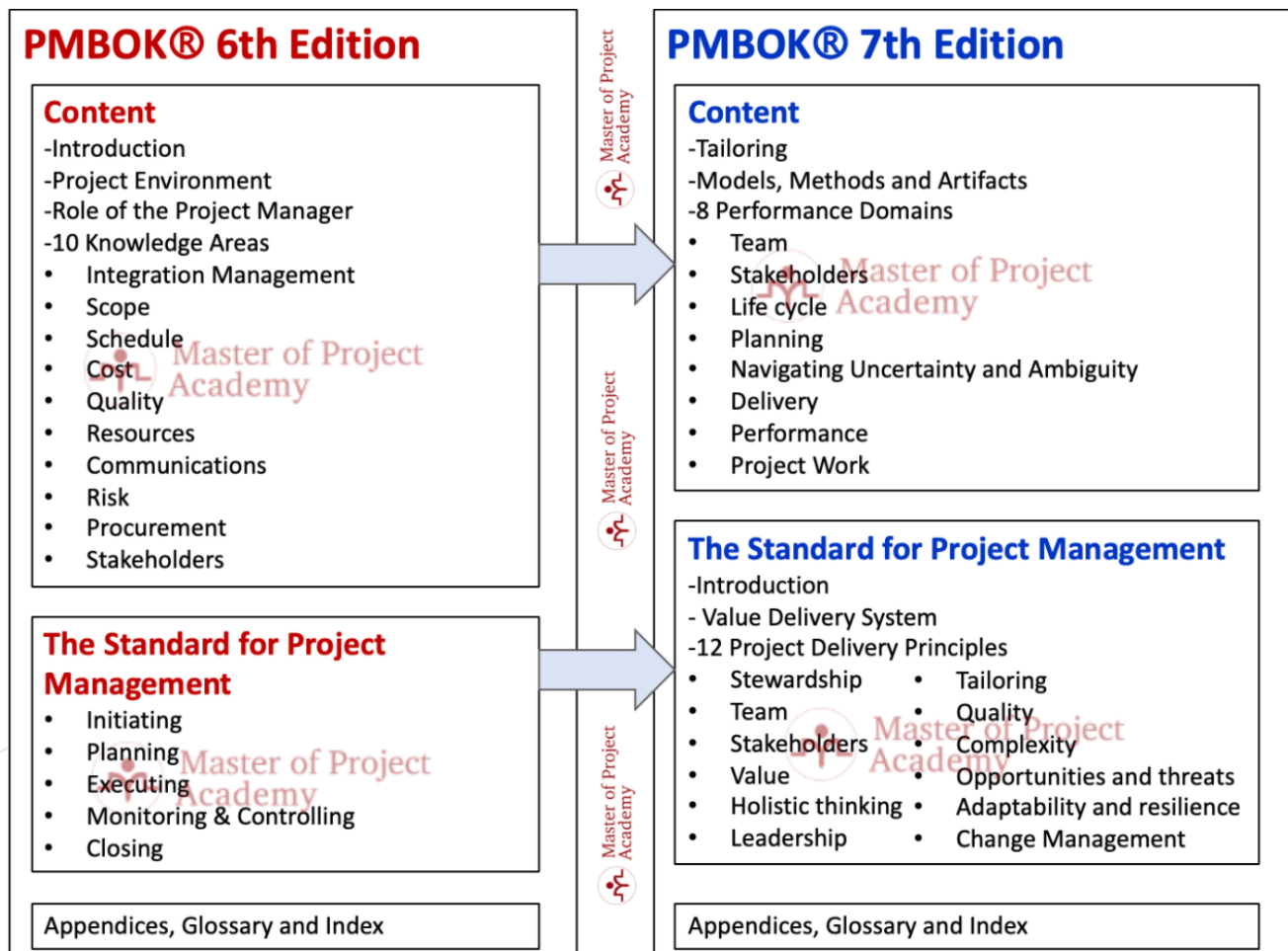
Summary of changes – Tailoring

- ❑ A **new section** on Models, Methods, and Artifacts provides a **high-level grouping** of models, methods, and artifacts that support project management.
 - ❖ This section maintains **linkages** to tools, techniques, and outputs from **previous editions** that support **project management without prescribing** when, how, or which tools teams should use.



Let's see these changes at a glance!

Summary of changes – Principles, system view, domains, and tailoring



Summary of changes – PMIstandards+



Summary of changes – Principles, system view, domains, and tailoring

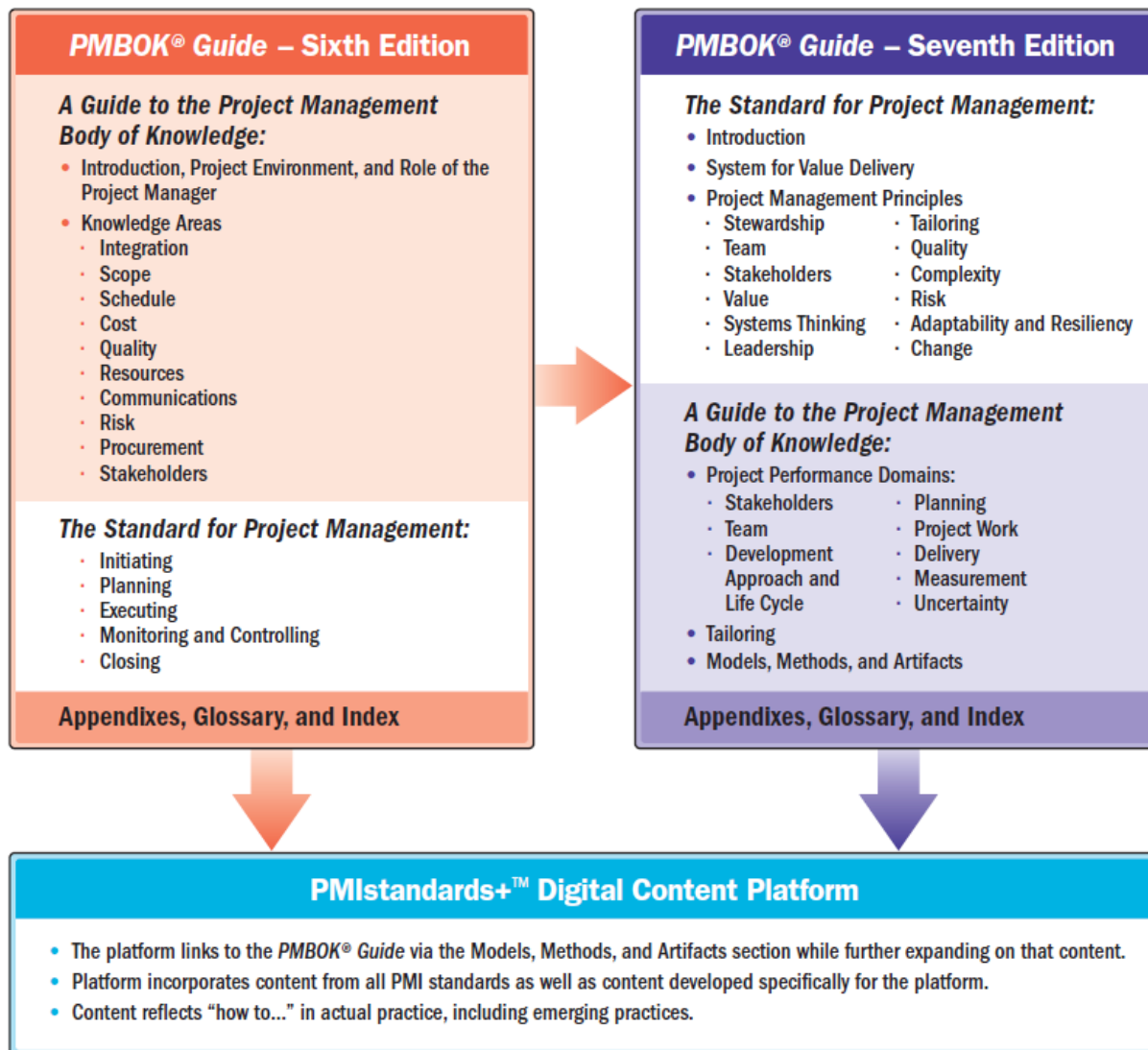
PMBOK Guide 2021 Updates



What was the **most significant advancement** in the new version?

Summary of changes – PMIstandards+

- ❑ The creation of PMIstandards+™
- ❑ Interactive digital platform that incorporates current, emerging, and future practices, methods, artifacts, and other useful information.



What does that mean?

Summary of changes – PMIstandards+

- ❑ **PMIstandards+** provides project practitioners and other stakeholders with **access** to a richer and broader **range of information and resources**.
- ❖ The content explains **how** specific practices, methods, or artifacts **apply** to **projects based** on industry segments, project types, or other characteristics.

Project Management Institute | PMIstandards+™ Already Registered? Login

Sample PMIstandards+ for Yourself

Project Management Institute | PMIStandards+ FILTERS >

Search for all things project management

Account

[Cancel](#) [APPLY](#)

Approach	Industry	Format	Knowledge Areas
☐ Agile	☐ Aerospace and Defense	☐ Article/Case Study	☐ Communications Management
☐ Hybrid	☐ Construction	☐ Audio	☐ Cost Management
☐ Waterfall	☐ Education	☐ Interactive Graphic	☐ Document Framework
	☐ Energy and Utilities	☐ Standard or Guide	☐ Executing
	☐ Financial Services	☐ Templates	☐ Initiating
	☐ Government	☐ Video	☐ Integration
	☐ Healthcare		☐ Monitoring and Controlling
	☐ Information Technology		☐ Planning
	☐ Manufacturing		☐ Procurement Management
	☐ Pharmaceutical		☐ Project Environment
	☐ Telecommunications		☐ Project Integration Management
			☐ Project Roles

How?

Summary of changes – PMIstandards+

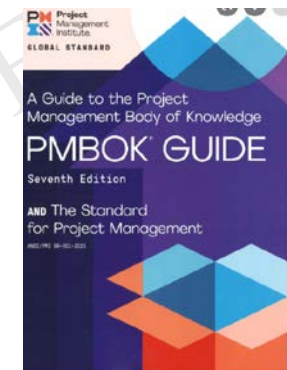
- ❑ **Starting with** the inputs, tools and techniques, and outputs from the PMBOK®

Guide – Sixth Edition,

PMIstandards+ will continue to **incorporate new resources** that support continued evolution in project management.

Going forward, users of The Standard for Project Management and the PMBOK® Guide

can find **information in PMIstandards+** that will **supplement** the information included in the **printed publication**.



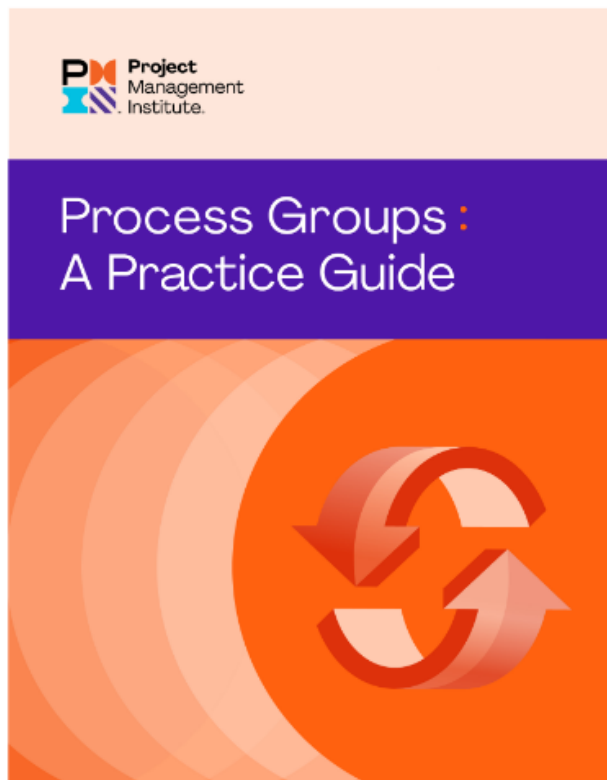
Summary of changes – PMIstandards+

Is PMI happy with this decision?

**So why suddenly PMI has
published a new document?**

Process groups: A practice guide

Process Groups: A Practice Guide



PRACTICE GUIDE | October 2022

How to cite this article:

Process Groups: A Practice Guide (2022).

Need help on how to get work done using traditional project management practices?

Then, *Process Groups: A Practice Guide* is the right supplemental guide for you. This important companion to *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)*, offers useful and practical guidance for a predictive or waterfall approach to project management practices. This practice guide influences your way of working, ensuring you are equipped with the information you need to succeed in this changing profession.

What is in the guide?



Process groups: A practice guide

What's in the guide?

You'll find a process-based project management approach for guiding your projects, aligning methodologies, and evaluating project management capabilities.

This guide uses a popular Process Groups model that will help you with:

- Initiating
- Planning
- Executing
- Monitoring and Controlling
- Closing

In addition, you will learn about 49 processes within these five process groups along with inputs, tools and techniques, and outputs associated with those processes. This practice guide shows the processes considered good practices on most projects, most of the time.

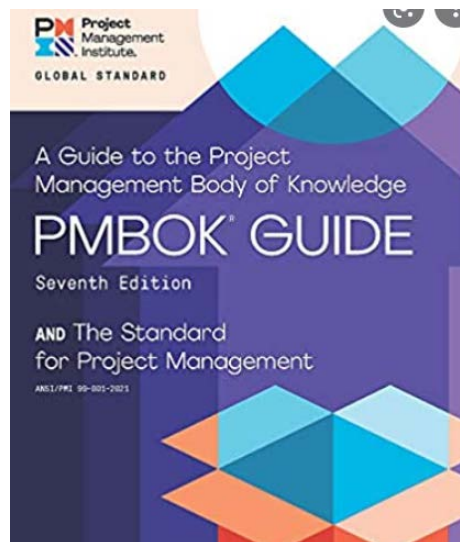
Languages: English

Additional languages will be available in early 2023.

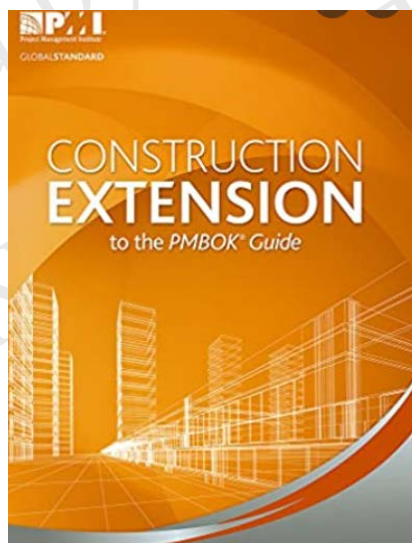
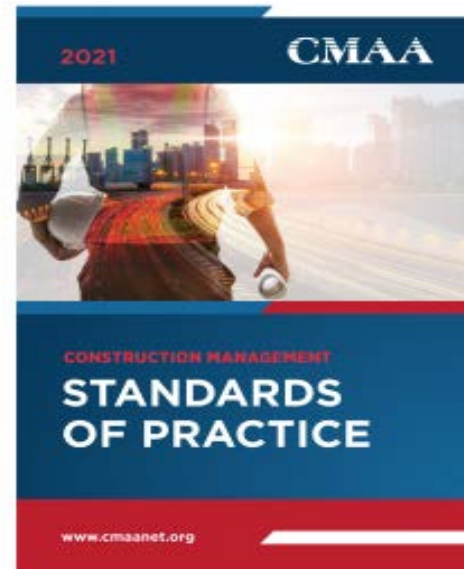
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PMBOK VS. Other References

PMBOK vs. PMBOK Extension vs. Construction Management Standards of Practice



VS.



PMBOK 6th vs. 5th

1. Initiating
2. Planning
3. Executing
4. Monitoring & controlling
5. Closing

- ☐ Integration
- ☐ Scope
- ☐ Schedule
- ☐ Cost
- ☐ Quality
- ☐ Resource
- ☐ Communications
- ☐ Risk
- ☐ Procurement
- ☐ Stakeholder

	Initiating	Planning	Executing	Monitoring & Controlling	Closing
4.0 Integration 7	4.1 Develop project charter	4.2 Develop project management plan	4.3 Direct & manage project work 4.4 Manage Project Knowledge	4.5 Monitor and control project work 4.6 Perform integrated change control	4.7 Close project or phase
5.0 Scope 6		5.1 Plan scope management 5.2 Collect requirements 5.3 Define scope 5.4 Create WBS	New Process	5.5 Validate Scope 5.6 Control Scope	
6.0 Time Schedule 6 Name Changed		6.1 Plan schedule management 6.2 Define activities 6.3 Sequence activities Estimate activity resources 6.4 Estimate activity durations 6.5 Develop schedule	Moved to Project Resource Management	6.6 Control Schedule	
7.0 Cost 4		7.1 Plan cost management 7.2 Estimate costs 7.3 Determine budget	Name Changed	7.4 Control Cost	
8.0 Quality 3 Name Changed		8.1 Plan quality management	8.2 Manage quality	8.3 Control quality New Process	
9.0 Human Resource 6 Name Changed		9.1 Plan resource management 9.2 Estimate activity resources	9.3 Acquire project team Resources 9.4 Develop project team 9.5 Manage project team	9.6 Control Resources Name Changed	
10.0 Communications 3		10.1 Plan communications management	10.2 Manage communications	10.3 Control Monitor communications Name Changed	
11.0 Risk 7 milestonetask		11.1 Plan risk management 11.2 Identify risk 11.3 Perform qualitative risk analysis 11.4 Perform quantitative risk analysis 11.5 Plan risk responses	11.6 Implement Risk responses New Process	11.7 Control risk Name Changed	Process Removed
12.0 Procurement 3 Name Changed		12.1 Plan procurement management	12.2 Conduct procurements	12.3 Control procurements	Close procurement
13.0 Stakeholder 4	13.1 Identify stakeholder	13.2 Plan stakeholder management engagement	13.3 Manage stakeholder engagement	13.4 Control Monitor stakeholder engagement Name Changed	
49	2	24	10	12	1

Construction Management Standards of Practice

1. Pre-Design

2. Design

3. Procurement

4. Construction

5. Post-Construction

- ☐ Code of professional conduct
- ☐ Professional construction management
- ☐ Project management
- ☐ Cost management
- ☐ Time management
- ☐ Quality management
- ☐ Contract administration
- ☐ Safety management
- ☐ Sustainability
- ☐ Technology management
- ☐ Risk management
- ☐ Program management (interesting part)
 - ❖ Stakeholder, PGMO, MIS, Scope, Procurement

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Construction Management Standards of Practice

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CM Core Competencies

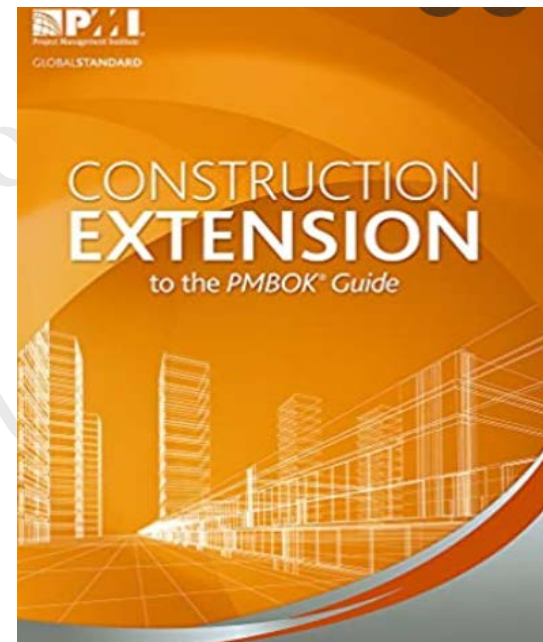
CMAA's Standards of Practice include construction management core competencies and accompanying body of knowledge that must be learned and successfully mastered before becoming a professional construction manager/project manager. CMAA's publications include competencies around the following subject areas:

- I. CM Professional Practice
- II. CM Project Management
- III. Cost Management
- IV. Time Management
- V. Quality Management
- VI. Contract Administration
- VII. Safety Management

For additional information, or to order materials/publications focused on these standards, please visit our [Bookstore](#).

PMBOK Extension

- ☐ Introduction
- ☐ The construction project environment
- ☐ Project management in the construction industry:
Overview and advancement
- ☐ Project integration management
- ☐ Project scope management
- ☐ Project schedule management
- ☐ Project cost management
- ☐ Project quality management
- ☐ Project resource management
- ☐ Project communications management
- ☐ Project risk management
- ☐ Project procurement management
- ☐ Project stakeholder management
- ☐ Project health, safety, security, and environment
(HSSE) management
- ☐ Project financial management
- ☐ ANNEX A1 (Managing claims in construction)

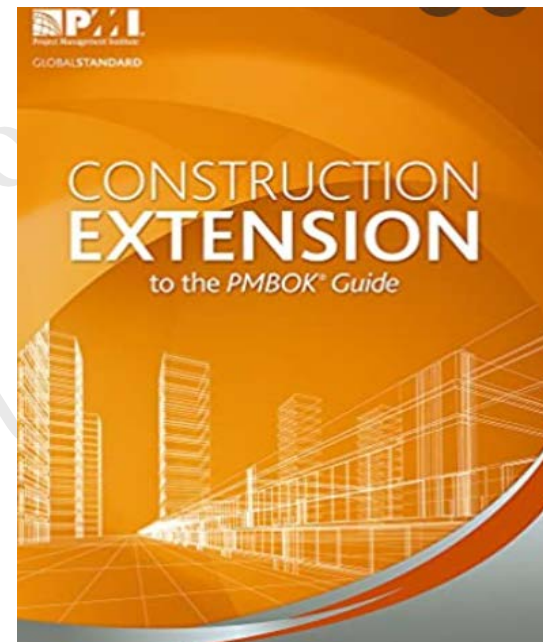


Why appendix?

PMBOK Extension

❑ Placing it in an appendix seems to say either:

1. It's not that important
2. We forgot about it, until it was nearly too late
3. We can't really see how to fit it into the main body



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PMBOK 6th vs. CMAA Standard

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PMBOK 6th vs. PMBOK Extension

- | | |
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| <ol style="list-style-type: none"> 1. Initiating 2. Planning 3. Executing 4. Monitoring & controlling 5. Closing <ul style="list-style-type: none"> ☐ Integration ☐ Scope ☐ Schedule ☐ Cost ☐ Quality ☐ Resource ☒ Communications ☐ Risk ☐ Procurement ☐ Stakeholder | <ul style="list-style-type: none"> ☐ Introduction ☒ The construction project environment ☒ Project management in the construction industry: Overview and advancement ☐ Project integration management ☐ Project scope management ☐ Project schedule management ☐ Project cost management ☐ Project quality management ☐ Project resource management ☐ Project communications management ☐ Project risk management ☐ Project procurement management ☐ Project stakeholder management ☒ Project health, safety, security, and environment (HSSE) management ☒ Project financial management ☒ ANNEX A1 (Managing claims in construction) |
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+۹۸ ۲۱ ۴۶ ۱۰۰ ۴۴۵



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