



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

بخش دوم: استاندارد مدیریت پروژه

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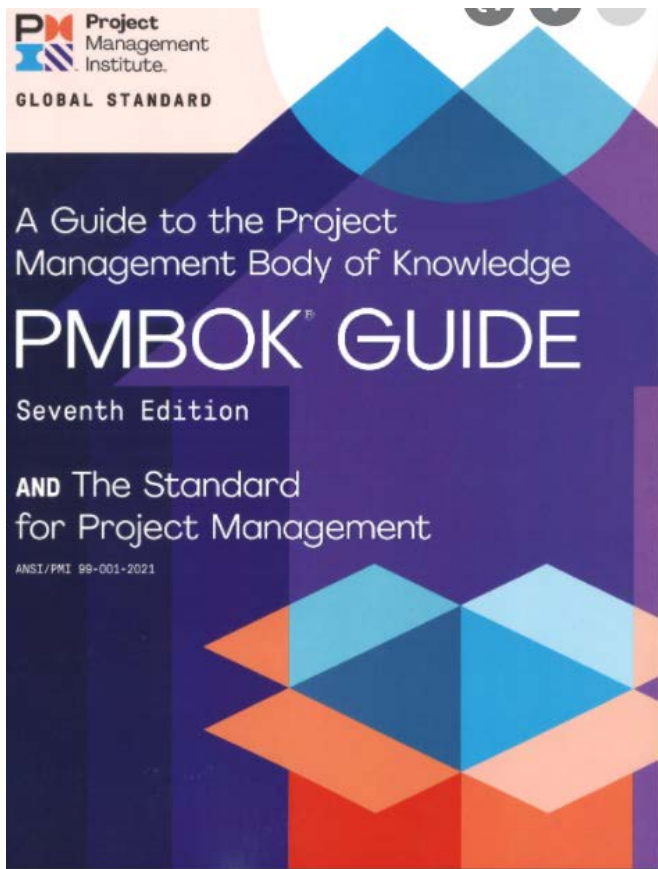
What we will learn?

- ❑ Introduction
- ❑ Standard For Project Management
 - ❖ 6th edition
 - ❖ 7th Edition – Introduction
 - ❖ 7th Edition – A System For Value Delivery
 - ❖ 7th Edition – Project Management Principles

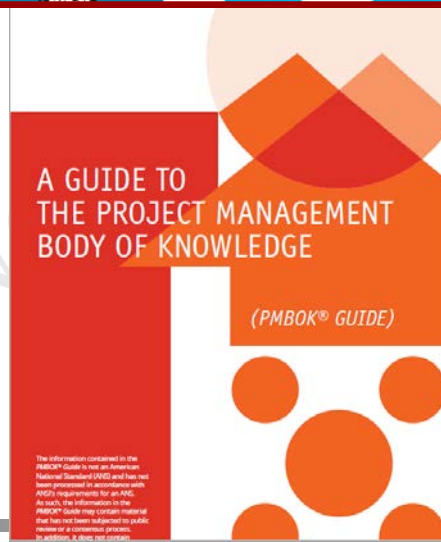
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Introduction

Standard in PMBOK 7th Edition

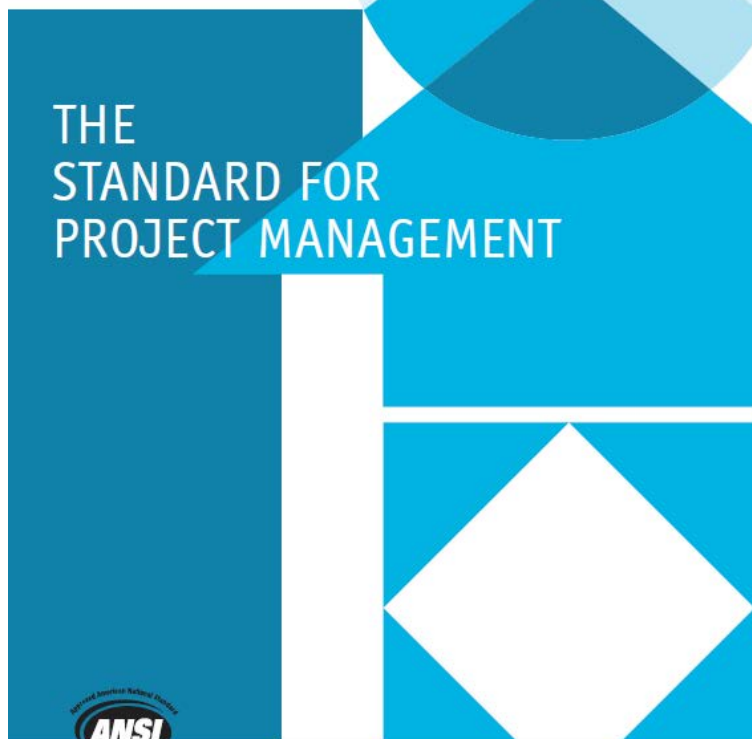


What is the difference with 6th Edition?



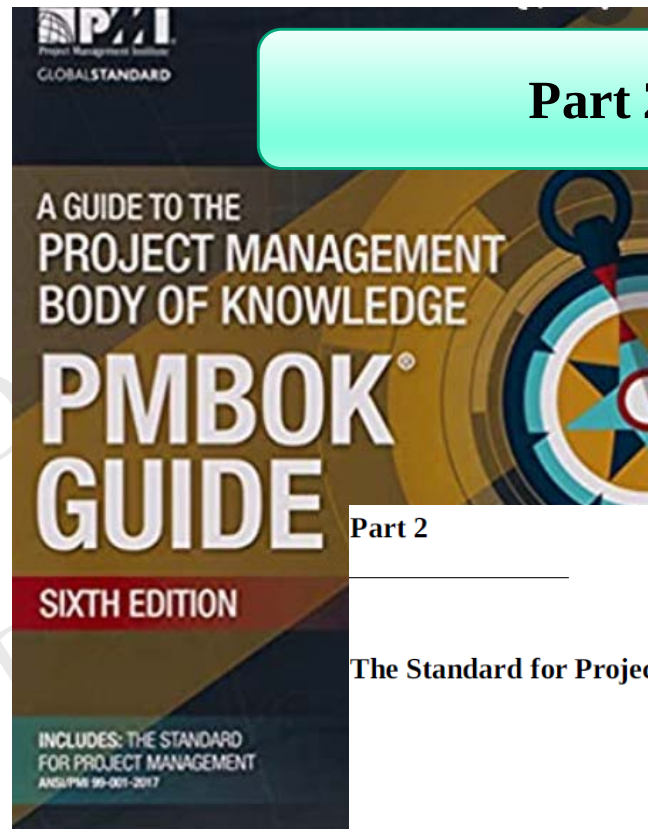
Standard in PMBOK 6th vs. 7th

Part 1



VS.

Part 2



Part 2

The Standard for Project Management

Let's see more detail!



Standard in PMBOK 6th vs. 7th



Introduction

A system for value delivery

**Project management
principles**

Let's see more detail!

Standard in PMBOK 6th vs. 7th

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

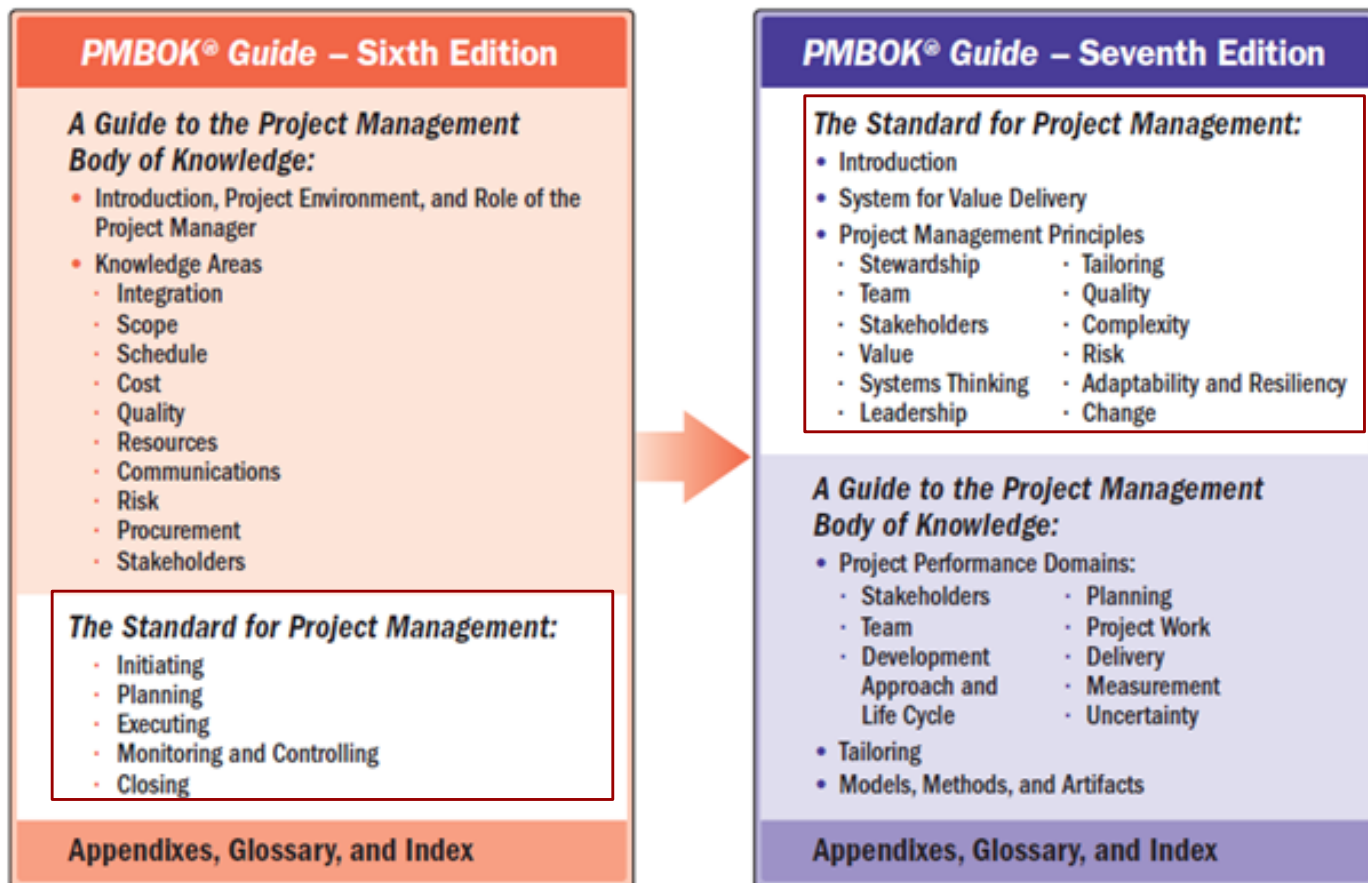
A Guide to the Project Management
Body of Knowledge

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

Appendices, Glossary, Index

Let's see more detail!

Standard in PMBOK 6th vs. 7th



Standard For Project Management

(6th Edition)

Standard in PMBOK 6th Edition

**We don't intend to teach PMBOK 6th edition,
however it is necessary to know what the difference is.**

Standard in PMBOK 6th Edition

- ❑ The Standard for Project Management was developed using a **process based** on the concepts of consensus, openness, due process, and balance.
- ❑ The **Standard for Project Management** is a foundational reference for
 1. PMI's project management professional development programs and
 2. Practice of project management
- ❑ Because **project management** needs to be **tailored to fit** the needs of the project, the standard and the guide are both based on **descriptive** practices, rather than **prescriptive** practices.

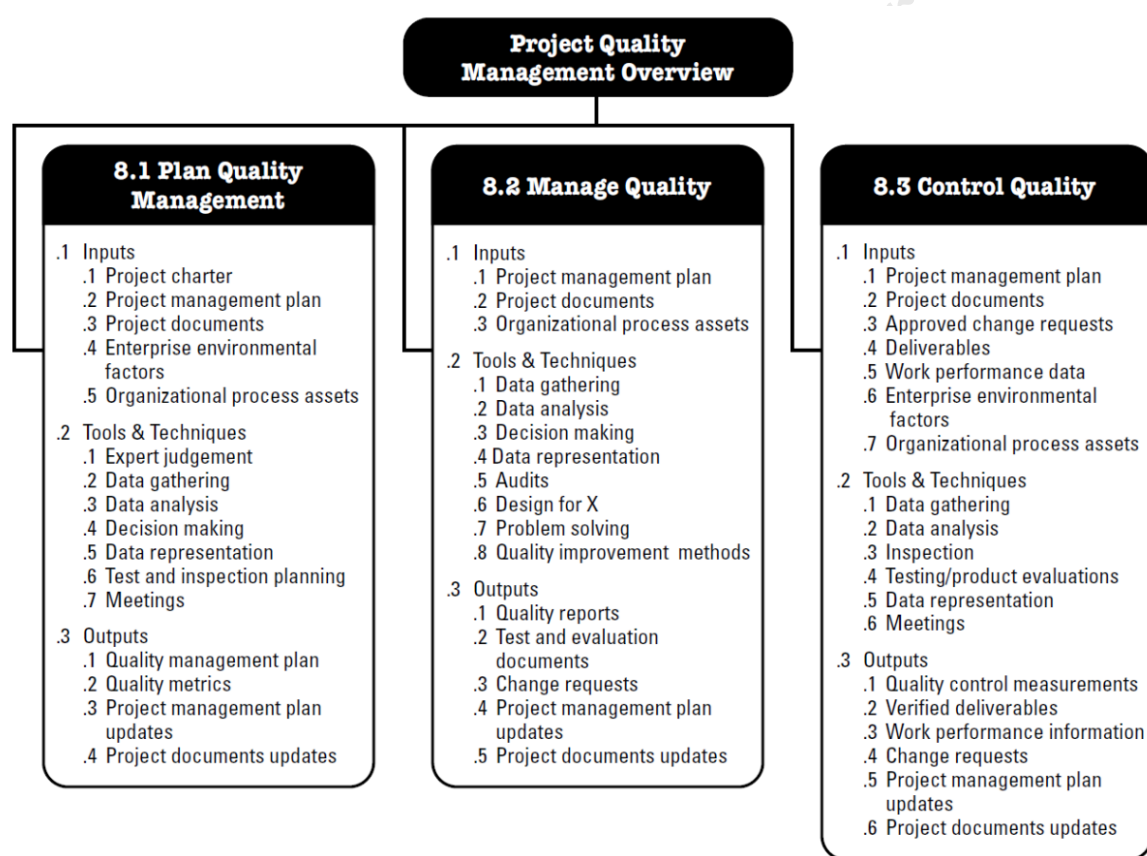
Standard in PMBOK 6th Edition

- ❑ The standard identifies the **processes** that are considered **good practices** on most projects, most of the time.

Standards		
Sixth edition	Seventh edition	
Process Groups	Project Delivery Principles	
• Initiating • Planning • Executing • Monitoring & Controlling • Closing	• Stewardship • Team • Stakeholders • Value • Holistic Thinking • Quality • Complexity	• Leadership • Tailoring • Opportunities & Threats • Adaptability & Resilience • Change management

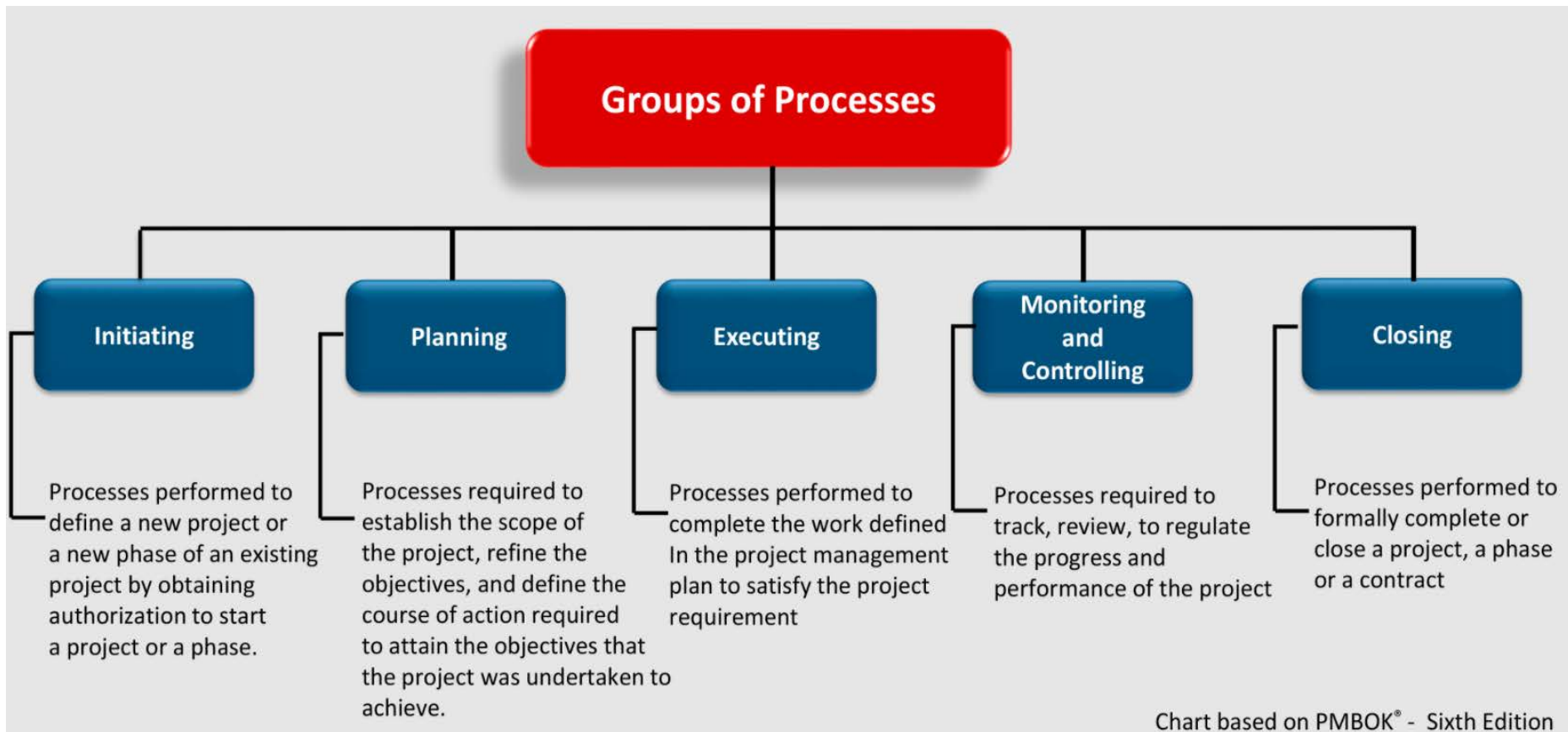
Standard in PMBOK 6th Edition

- ❑ The standard also identifies the **inputs** and **outputs** that are usually **associated** with those processes.

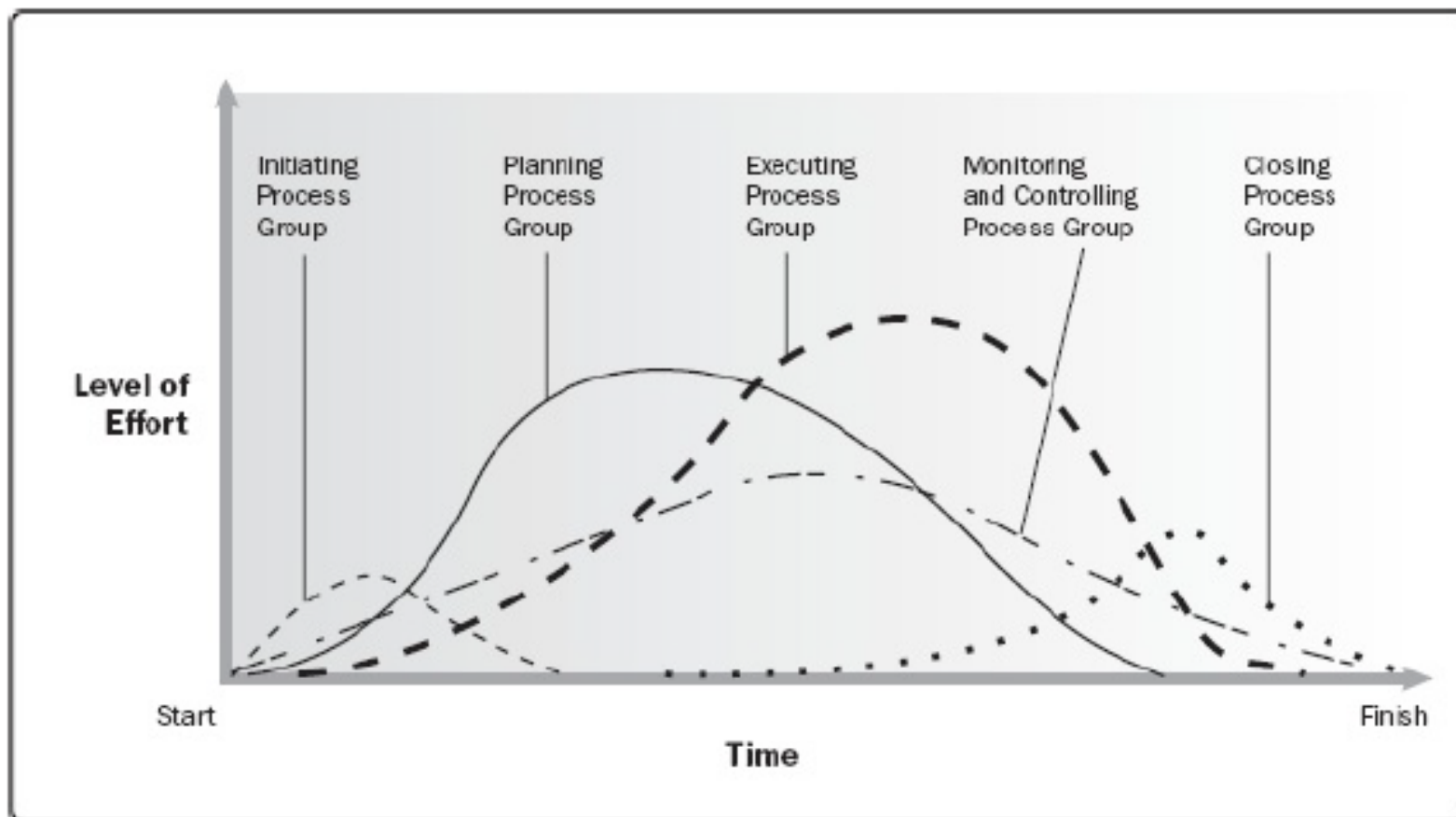


- ❑ The standard does **not require** that any particular process or practice be performed.

Project management processes



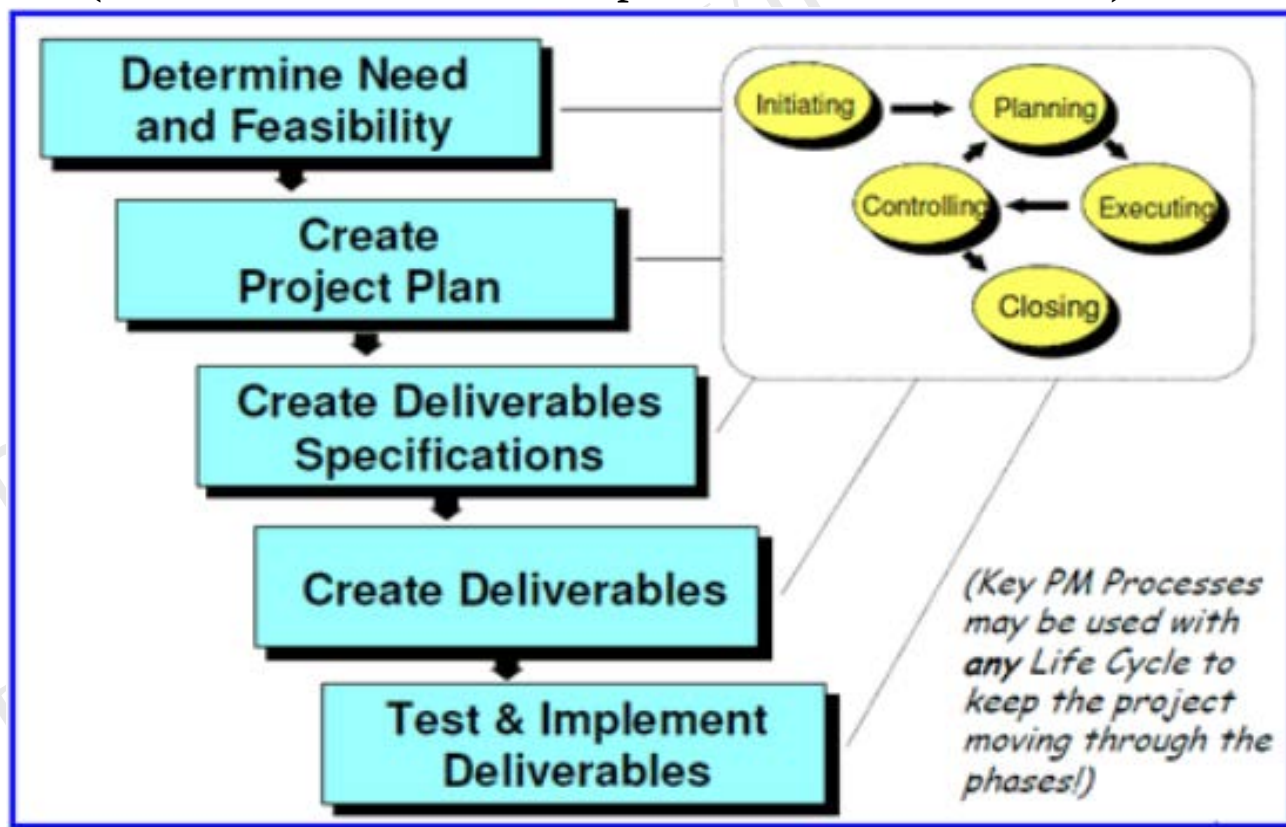
Project management processes



Project life cycle vs. Project management processes

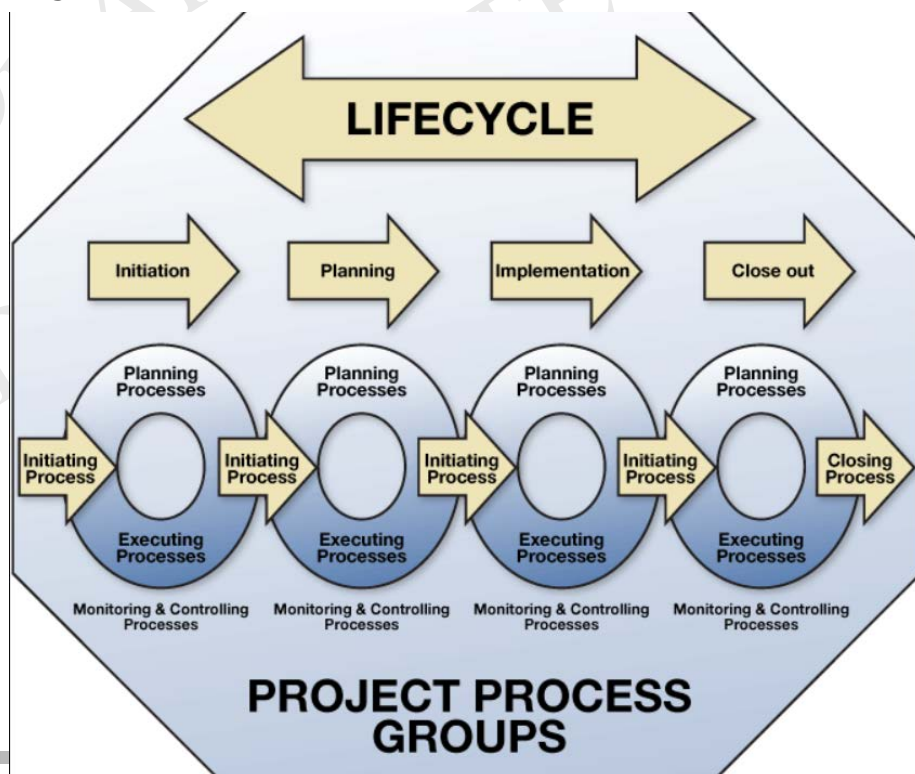
❑ These **five Process Groups** are independent of

1. **Application areas**, (such as marketing, information services, or accounting) or
2. **Industry focus** (such as construction, aerospace, telecommunications).



Project life cycle vs. Project management processes

- ❑ Individual processes in the Process Groups are often **iterated prior** to completing a phase or a project.
- ❑ The **number** of process iterations and interactions between processes **varies** based on the **needs of the project**.

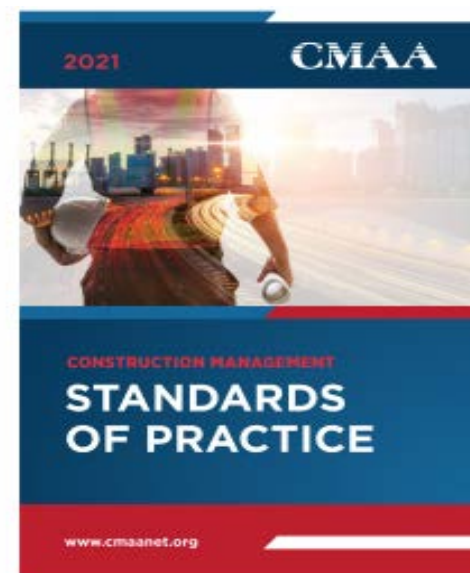


Standard in PMBOK 6th Edition vs. CMAA Standard (2021)

❑ Focuses on **Project Life Cycles** based on the **functions**

These functions are not mutually exclusive. They are related and integral components of the construction management process. For ease of reference, functions are presented in the following phases:

- » Pre-design
- » Design
- » Procurement
- » Construction
- » Post-construction



Why construction standards do not start from group processes?

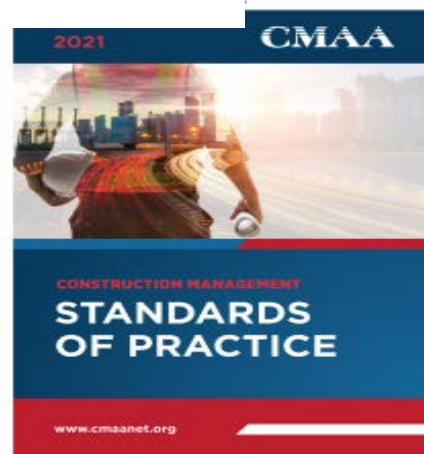
Standard in PMBOK 6th Edition vs. CMAA Standard (2021)

❑ Focuses on **Project delivery methods** that are **not concerned in PMBOK**

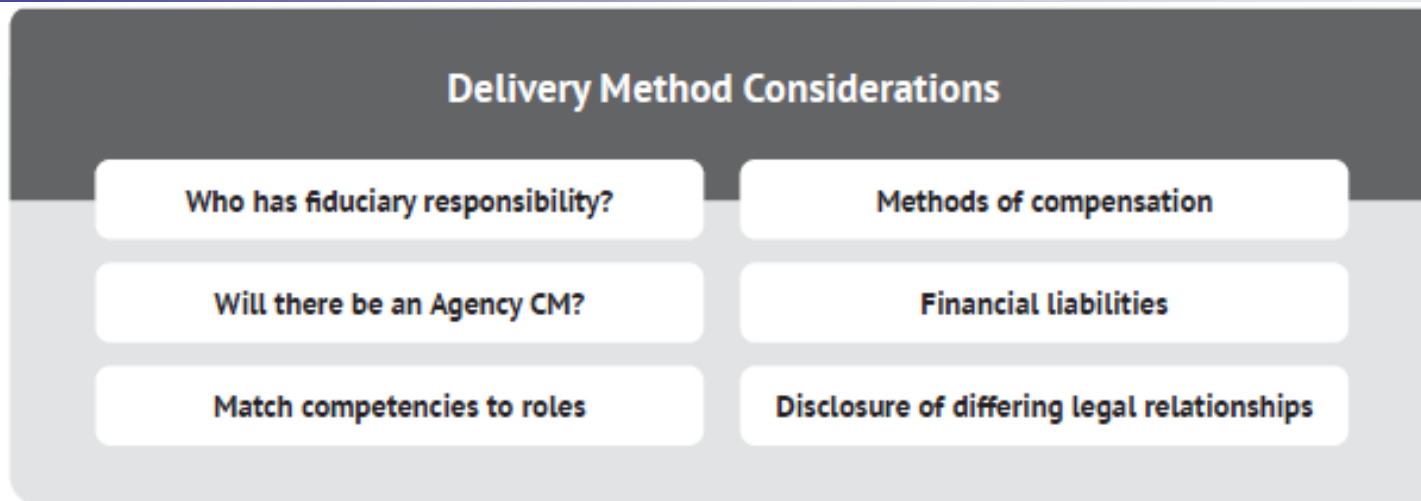
Many approaches exist to deliver a successful project, but it is possible to reduce the number of methods to several basic delivery forms by defining who has responsibility for construction performance, i.e., the actual delivery of the project. These include:

- » **Traditional Approach or Design-Bid-Build (D-B-B)**
- » **Multiple-Prime Contracting (Multi-Prime)**
- » **Construction Management at-risk (CMAR)** – also referred to as CM/independent contractor, CM/GC, or CM guaranteed maximum price (GMP)
- » **Design-Build (D-B)** – traditional or progressive
- » **Other Methods:** Engineering, Procurement, Construction (EPC); Engineering, Procurement, Construction Management (EPCM); Integrated Project Delivery (IPD); Job Order Contracting (IOC)

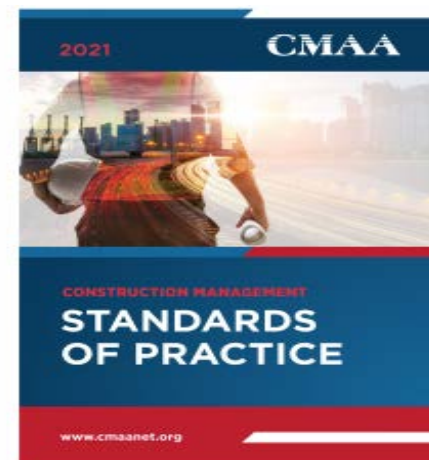
This is a **real problem** in construction projects which is not appropriately touched in PMBOK!



Standard in PMBOK 6th Edition vs. CMAA Standard (2021)



You will learn this in CMAA course!





Knowledge area in PMBOK 6th Edition

PROCESS GROUP AND KNOWLEDGE AREA MAPPING

Knowledge Areas	Project Management Process Groups				
	Initiating	Planning	Executing	Monitoring and Controlling	Closing
4. Project Integration Management	4.1 Develop Project Charter	4.2 Develop Project Management Plan	4.3 Direct and 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. Project Scope Management		5.1 Plan Scope Management 5.2 Collect Requirements 5.3 Define Scope 5.4 Create WBS		5.5 Validate Scope 5.6 Control Scope	
6. Project Schedule Management		6.1 Plan Schedule Management 6.2 Define Activities 6.3 Sequence Activities 6.4 Estimate Activity Durations 6.5 Develop Schedule		6.6 Control Schedule	
7. Project Cost Management		7.1 Plan Cost Management 7.2 Estimate Costs 7.3 Determine Budget		7.4 Control Costs	
8. Project Quality Management		8.1 Plan Quality Management	8.2 Manage Quality	8.3 Control Quality	
9. Project Resource Management		9.1 Plan Resource Management 9.2 Estimate Activity Resources	9.3 Acquire Resources 9.4 Develop Team 9.5 Manage Team	9.6 Control Resources	
10. Project Communications Management		10.1 Plan Communications Management	10.2 Manage Communications	10.3 Monitor Communications	
11. Project Risk Management		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 Implement Risk Responses	11.7 Monitor Risks	
12. Project Procurement Management		12.1 Plan Procurement Management	12.2 Conduct Procurements	12.3 Control Procurements	
13. Project Stakeholder Management	13.1 Identify Stakeholders	13.2 Plan Stakeholder Engagement	13.3 Manage Stakeholder Engagement	13.4 Monitor Stakeholder Engagement	

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Knowledge area in CMAA Standard (2021)

In addition to an introduction to project delivery methods, this manual addresses the following distinct functions:

- | | | |
|---|----------------------------|--------------------------|
| 1. Professional Construction Management | 5. Quality Management | 9. Technology Management |
| 2. Project Management | 6. Contract Administration | 10. Risk Management |
| 3. Cost Management | 7. Safety Management | 11. Program Management |
| 4. Time Management | 8. Sustainability | |

What differences you see between **PMBOK** and **CMAA standard**?

Knowledge area in CMAA Standard (2021)

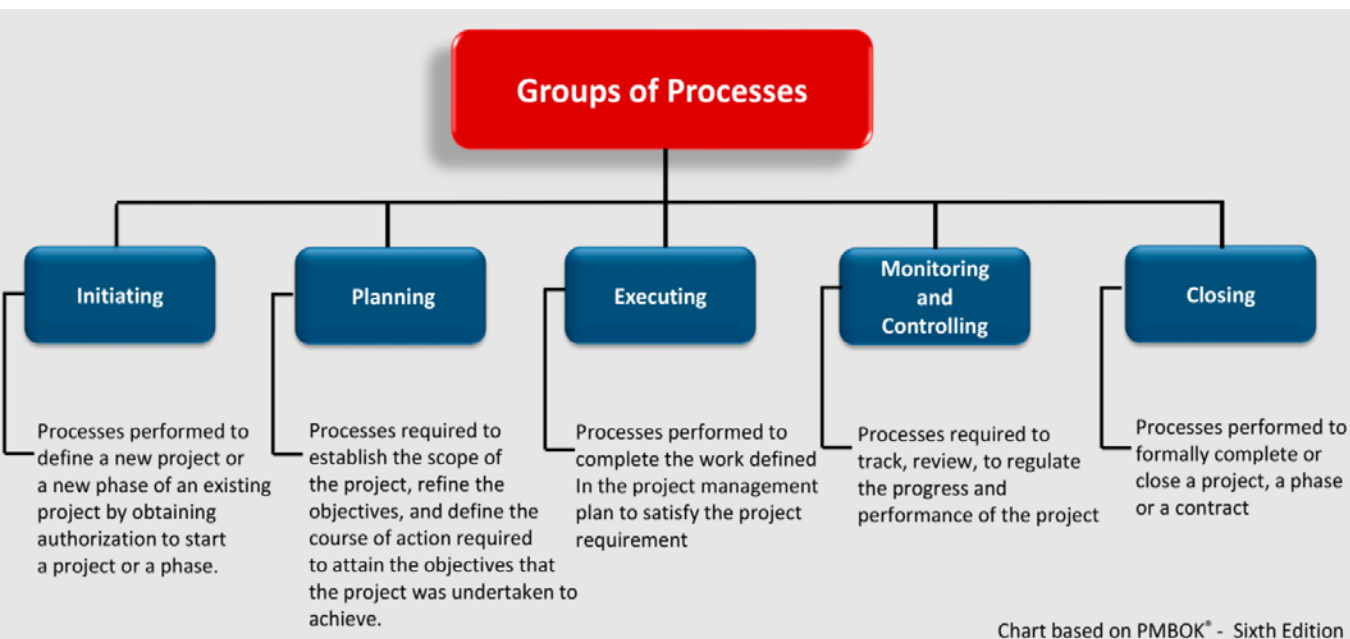
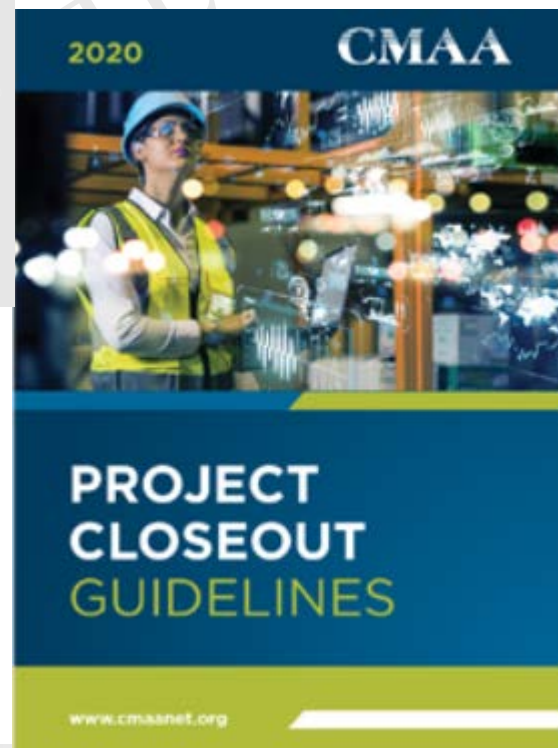


Chart based on PMBOK® - Sixth Edition



Project Management Plan and Project Documents

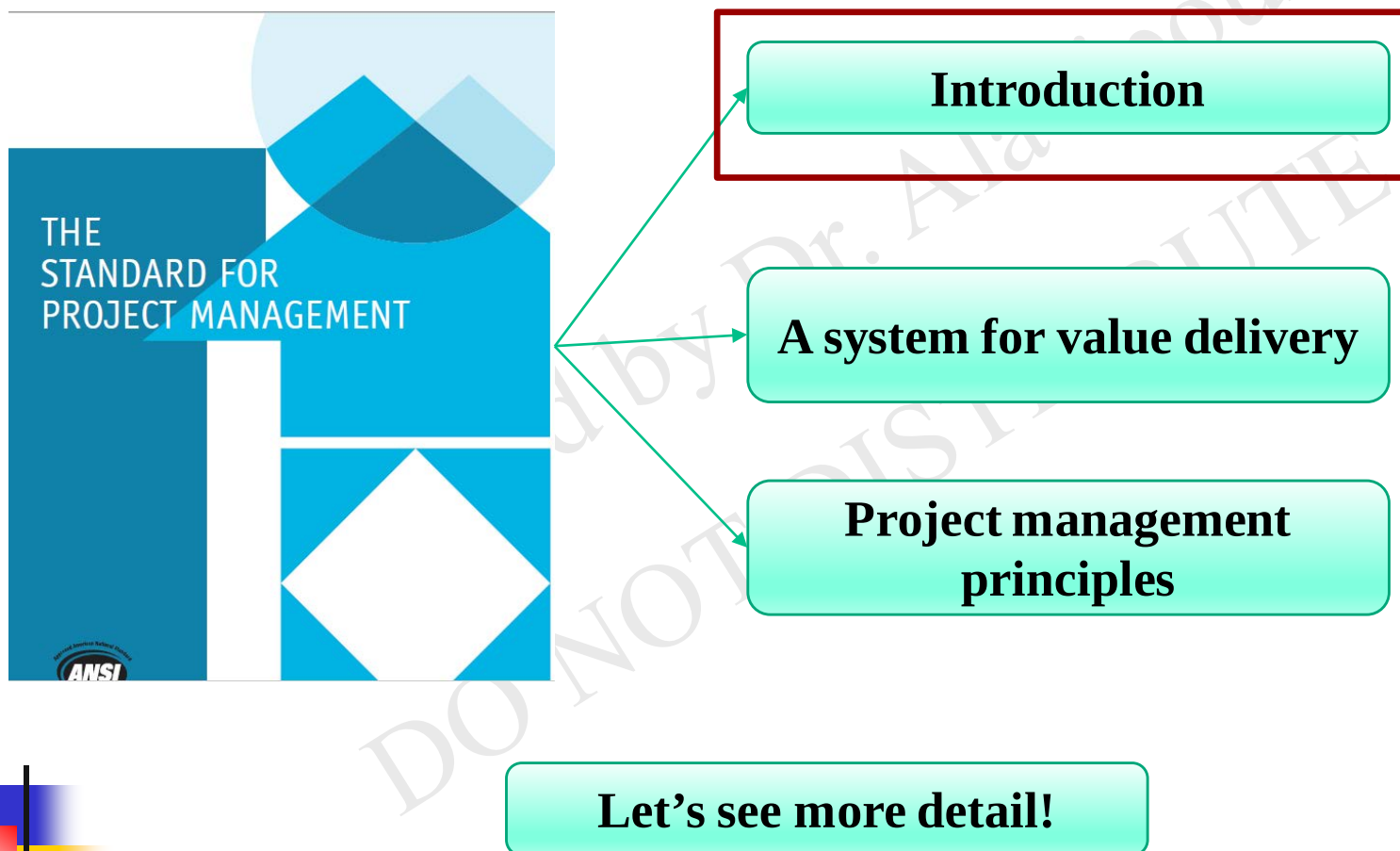
Project Management Plan	Project Documents	
1. Scope management plan	1. Activity attributes	19. Quality control measurements
2. Requirements management plan	2. Activity list	20. Quality metrics
3. Schedule management plan	3. Assumption log	21. Quality report
4. Cost management plan	4. Basis of estimates	22. Requirements documentation
5. Quality management plan	5. Change log	23. Requirements traceability matrix
6. Resource management plan	6. Cost estimates	24. Resource breakdown structure
7. Communications management plan	7. Cost forecasts	25. Resource calendars
8. Risk management plan	8. Duration estimates	26. Resource requirements
9. Procurement management plan	9. Issue log	27. Risk register
10. Stakeholder engagement plan	10. Lessons learned register	28. Risk report
11. Change management plan	11. Milestone list	29. Schedule data
12. Configuration management plan	12. Physical resource assignments	30. Schedule forecasts
13. Scope baseline	13. Project calendars	31. Stakeholder register
14. Schedule baseline	14. Project communications	32. Team charter
15. Cost baseline	15. Project schedule	33. Test and evaluation documents
16. Performance measurement baseline	16. Project schedule network diagram	
17. Project life cycle description	17. Project scope statement	
18. Development approach	18. Project team assignments	

What problem do you see here?

Standard For Project Management

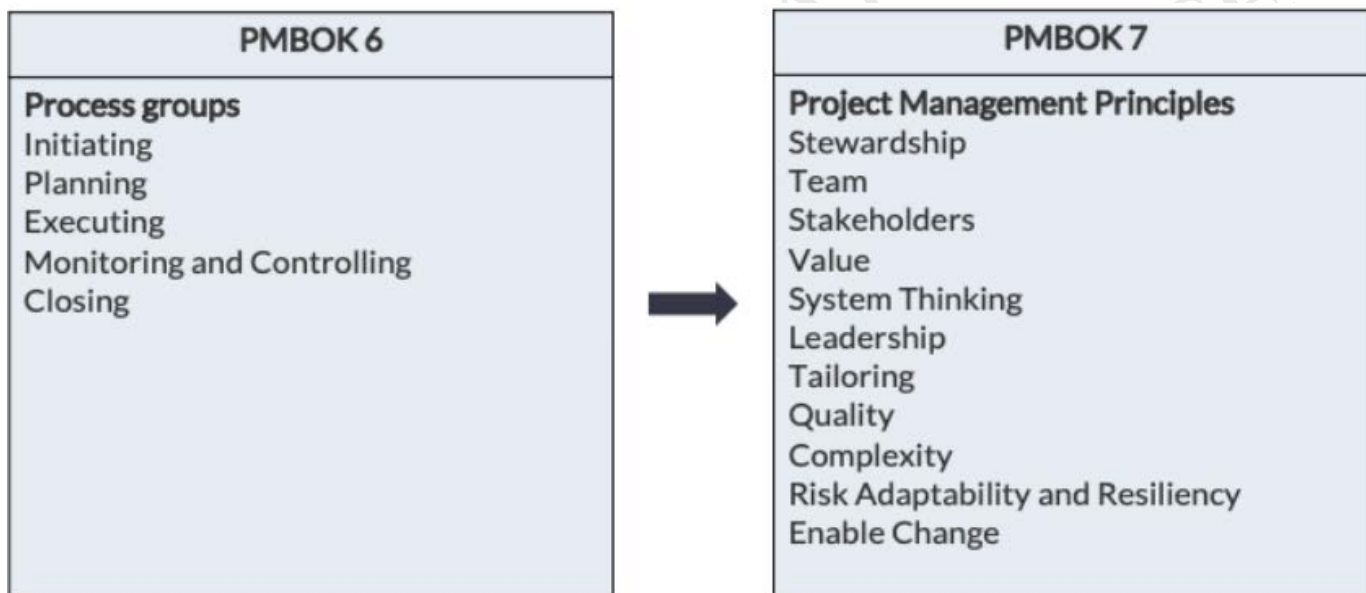
(7th Edition – Introduction)

Standard in PMBOK 7th



Standard in PMBOK 7th

- ❑ The Standard for Project Management **identifies project management principles** that guide the **behaviors** and **actions** of **project professionals** and **other stakeholders** who work on or are engaged with projects.



What changes here?
Is it easily doable?

Sections

❑ The Standard for Project Management consists of the following sections:

- ▶ Section 1 Introduction
- ▶ Section 2 A System for Value Delivery
- ▶ Section 3 Project Management Principles

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Purpose

- ❑ The Standard for Project Management provides a **basis** for
 1. **Understanding** project management
 2. **How** it **enables** intended **outcomes**
- ❑ This standard applies **regardless of** **industry**, location, size, or delivery approach, for example, predictive, hybrid, or adaptive.
- ❑ It describes the **system** within which **projects operate**, including governance, possible functions, the project environment, and considerations for the **relationship** between **project management** and **product management**.

What **happens** if we develop a system regardless of **industry** that could be different with different characteristics, cultures and operations?

Key terms and concepts

- ❑ The Standard for Project Management reflects the **progression** of the **profession**.

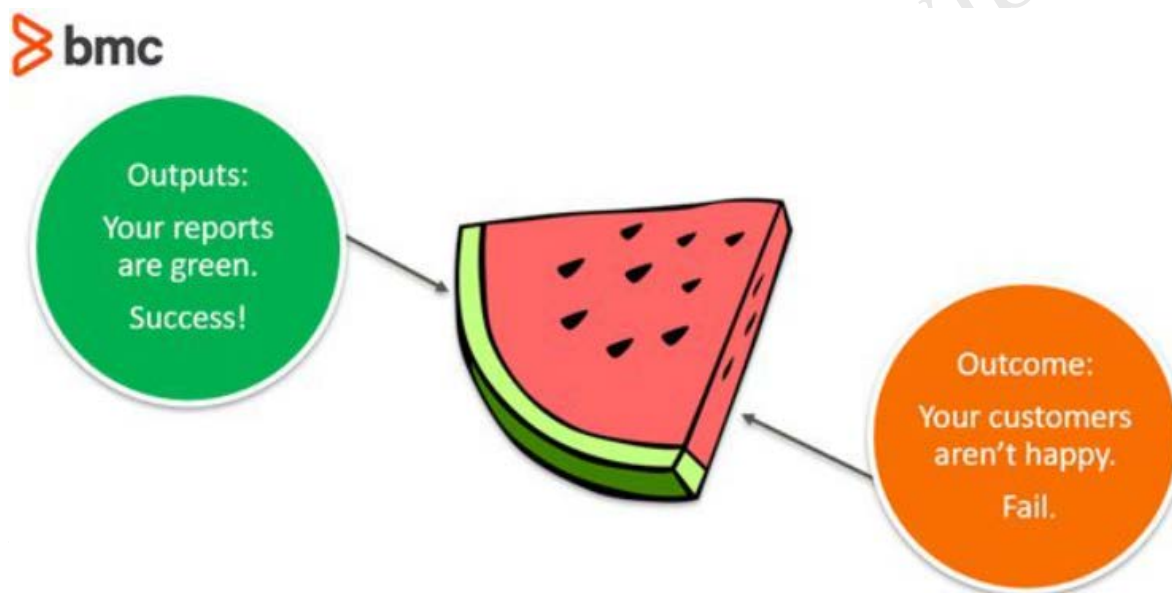
What expectations from and within

1. Organizations
2. Project managers



Key terms and concepts

- ❑ **Organizations** expect projects to **deliver outcomes** in addition to **outputs** and **artifacts**.

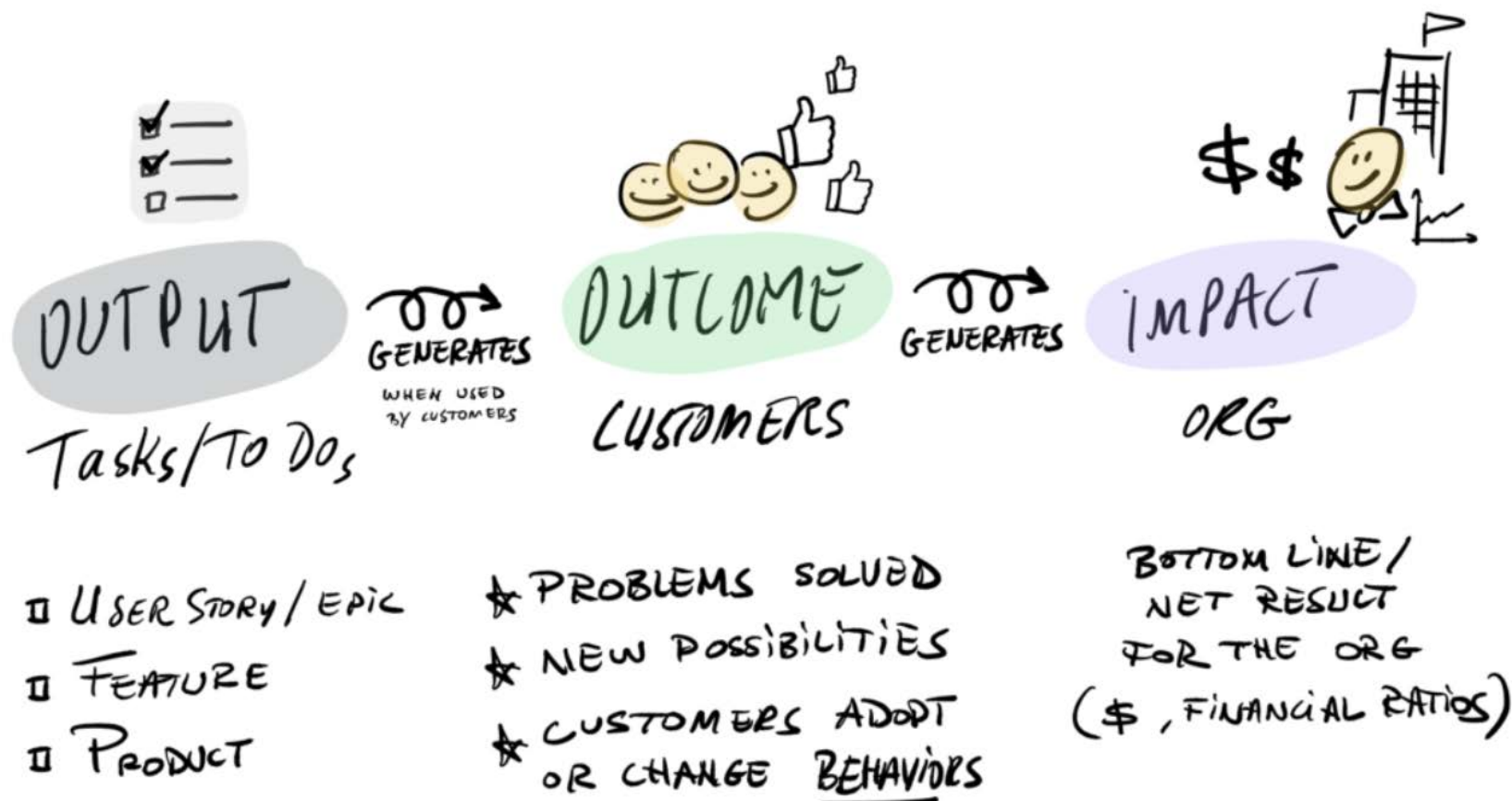


The watermelon effect: Your outputs (activities) meet defined targets, but the outcome (result) is not achieved.

Key terms and concepts

❑ Organizations expect projects to

deliver outcomes in addition to **outputs** and **artifacts**.



Key terms and concepts

❑ Organizations expect projects to

deliver outcomes in addition to **outputs** and **artifacts**.

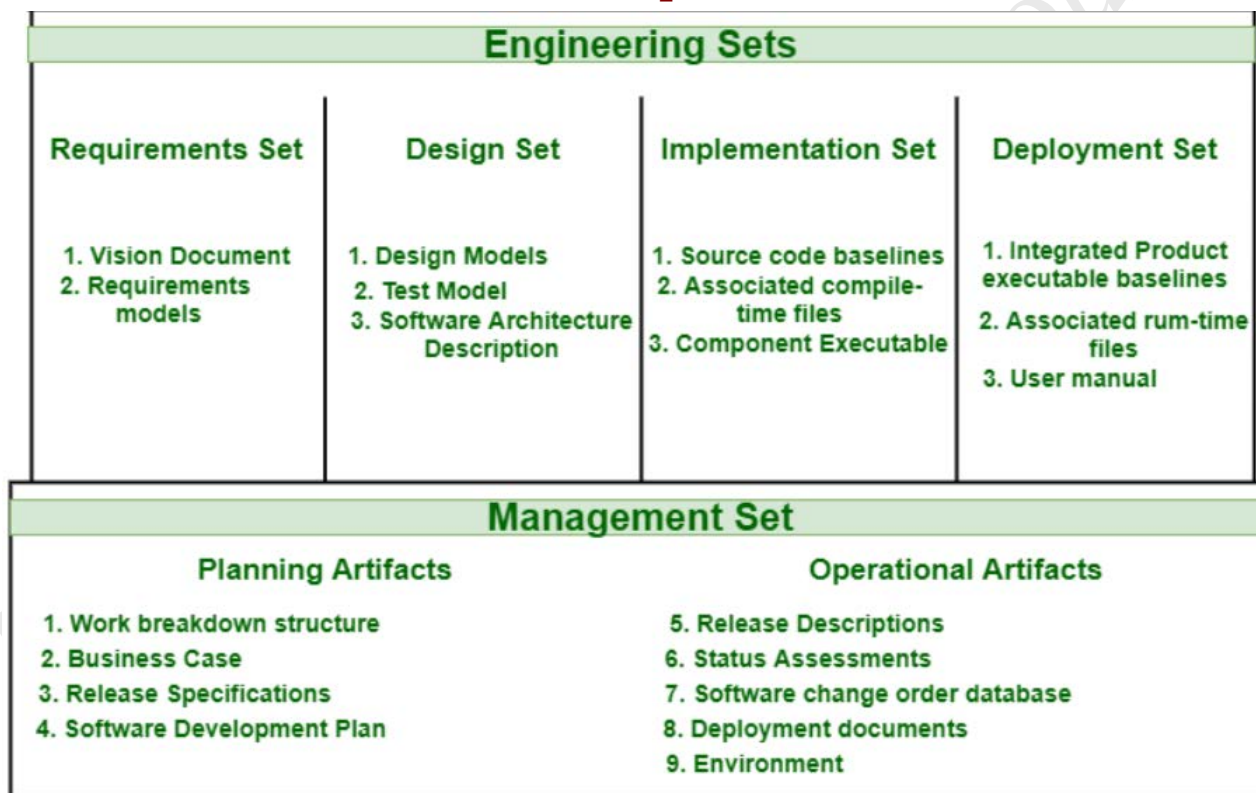
Project artifacts are any document, model or design related to the management of your project. As projects progress, your team will create many artifacts during the life of the project. These artifacts are “living documents,” which means they evolve to reflect changes in the project.

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Key terms and concepts

❑ Organizations expect projects to

deliver outcomes in addition to **outputs** and **artifacts**.



Overview of the Artifact Sets

Key terms and concepts

❑ Project managers are expected to

deliver projects that create value for

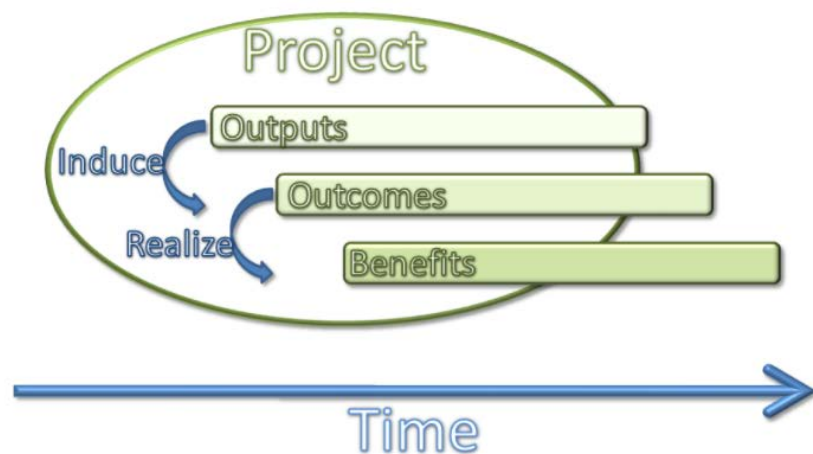
organization and stakeholders within the organization's system for **value delivery**.

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Key terms and concepts

► Outcome

- ✓ An **end result** or **consequence** of a process or project.
- ✓ Outcomes can **include** outputs and artifacts,
but have a **broader intent** by **focusing** on the benefits and value that the
project was undertaken to deliver.



Key terms and concepts

► Product

✓ An **artifact** that is

1. Produced
2. Quantifiable
3. Either an end item **in itself** or a **component** item

A **product** is the result of a **process**; it is the **end**

while the **artifact** is an **element of the process** that appears during it and generates reflections, conflicts or interactions that modify the direction of the project and transform people.

This term and concept is **common** in digital and **IT projects!**

Key terms and concepts

► Portfolio

- ✓ Projects, programs, subsidiary portfolios, and operations managed as a group to achieve **strategic objectives**.

► Program

- ✓ Related projects, subsidiary programs, and program activities that are managed in a coordinated manner to **obtain benefits not available** from managing them **individually**.

► Project

- ✓ A **temporary endeavor** undertaken to create a **unique** product, service, or result.
- ✓ The temporary nature of projects indicates a **beginning** and an **end** to the project work or a **phase of the project** work.
- ✓ **Projects** can stand alone or be part of a program or portfolio.

Key terms and concepts

This is what CMAA defines...
This has many things else...

This section discusses program management, which in the construction industry context is the application of construction management to large, complex, or multiple capital improvement projects. A program manager (PgM) generally has the responsibility to manage all resources and relationships necessary to achieve an owner's desired outcome. Depending on the owner's organization and needs, in-house personnel or a contracted qualified consultant may provide program management services.

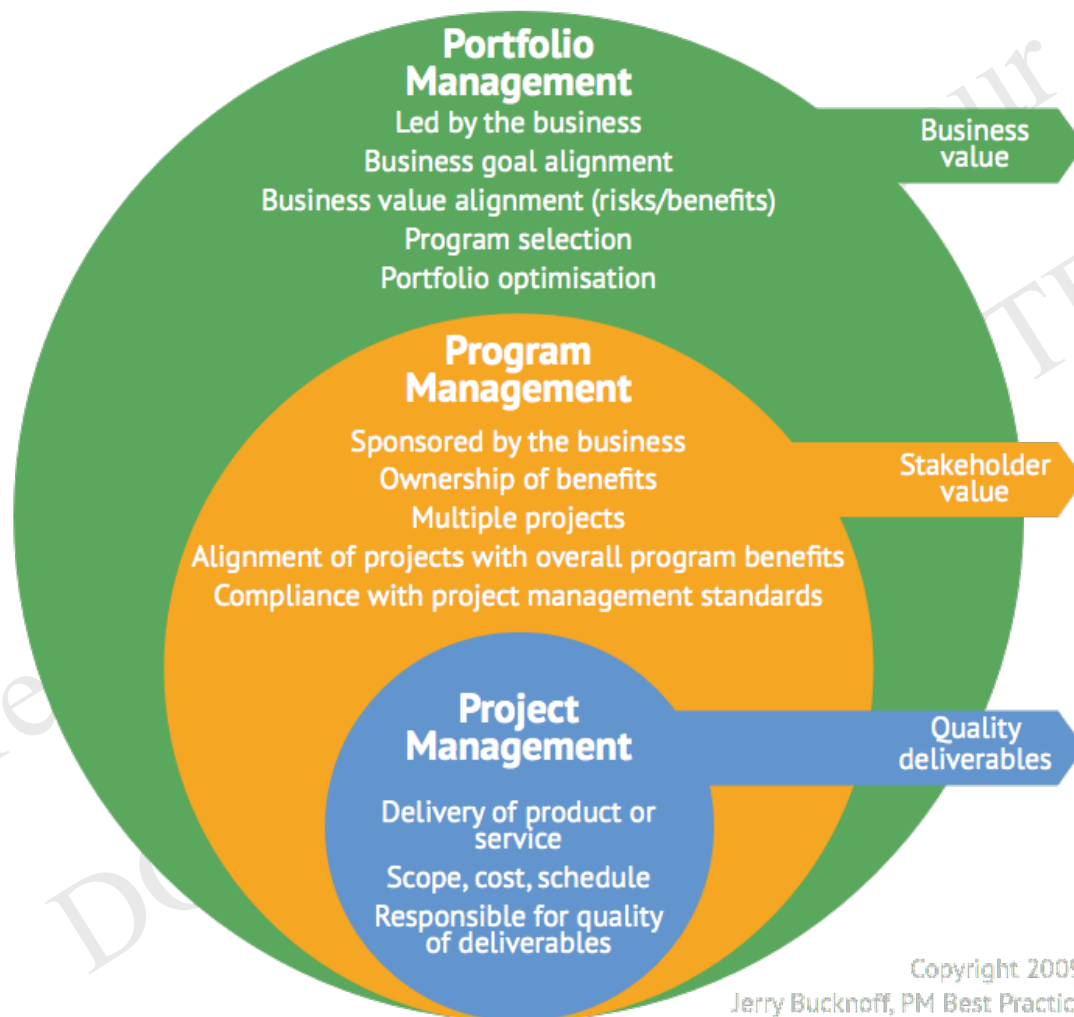
There are many similarities between project management and program management. Both utilize integrated systems and procedures such as budgeting, estimating, scheduling, procurement, and inspection to manage the design and construction process.

The principal differences between project management and program management are the number, size, complexity, and scope of the projects. Project management typically applies to a single project with sequential phasing. Program management often involves multiple projects occurring concurrently or at varying times. (See **Chapter 2: Project Management**.)

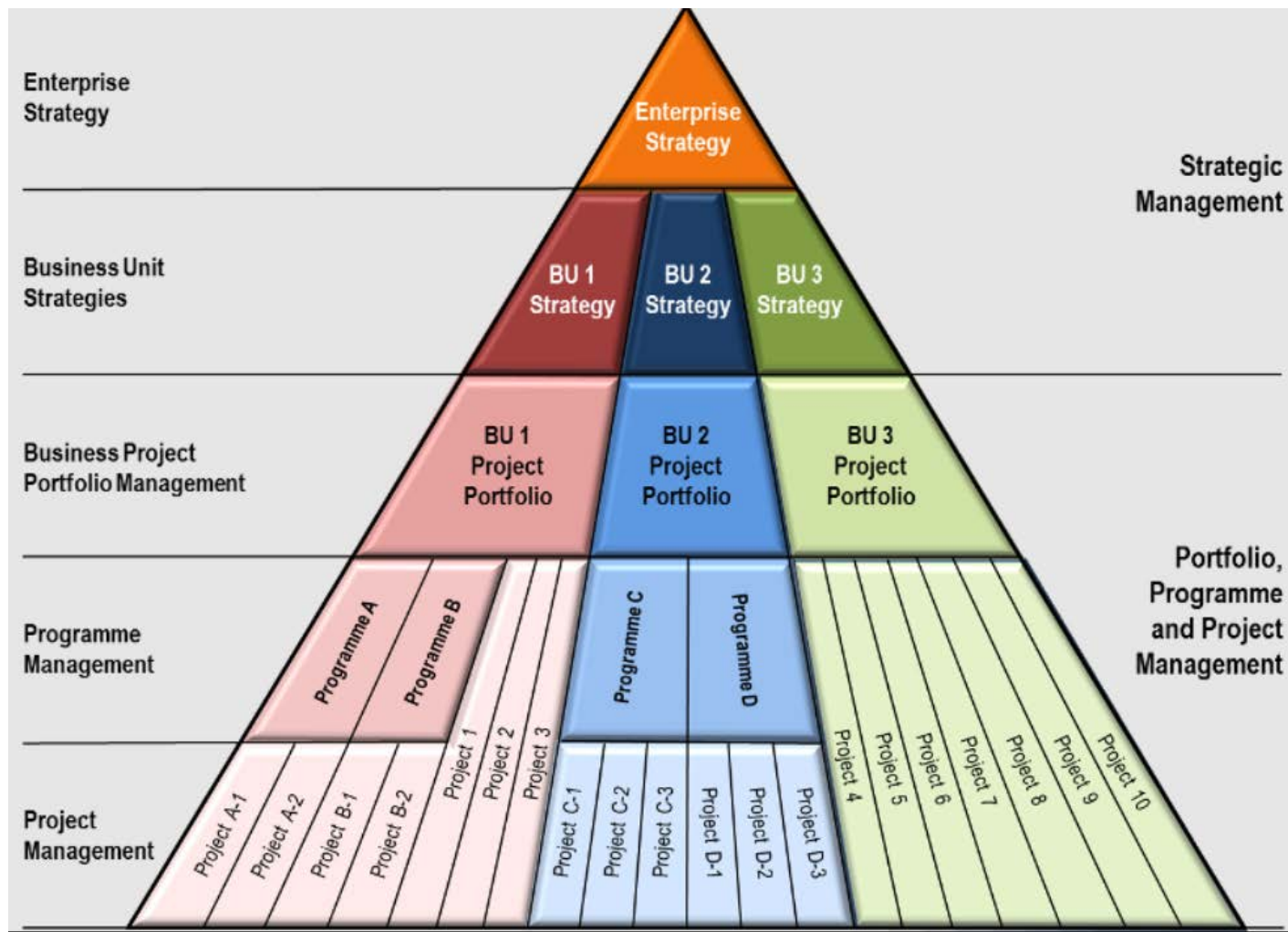
Key terms and concepts



Key terms and concepts



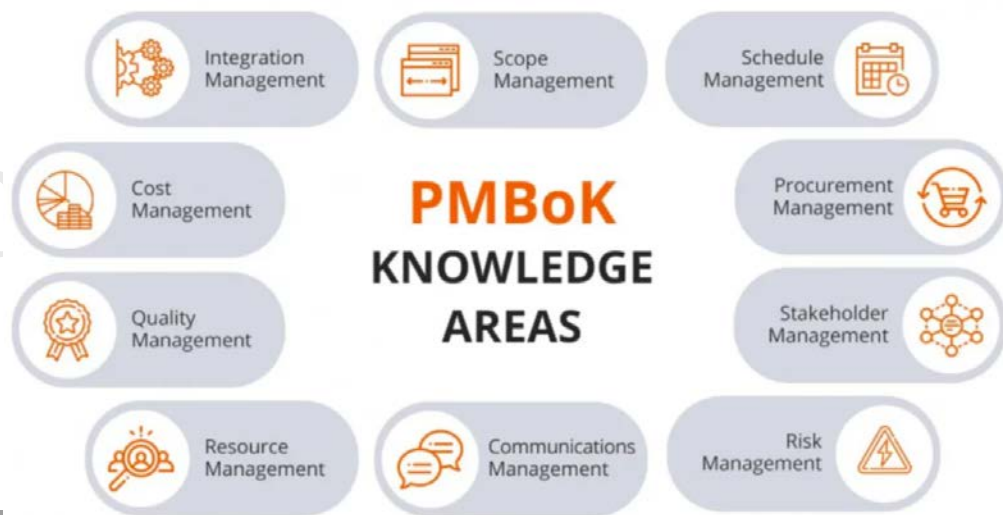
Key terms and concepts



Key terms and concepts

► Project management

- ✓ The **application** of knowledge, skills, tools, and techniques to project activities to **meet project requirements**.
- ✓ Project management refers to **guiding the project work** to deliver the **intended outcomes**.
- ✓ Project teams can achieve the **outcomes** using a **broad range of approaches** (e.g., predictive, hybrid, and adaptive).



Key terms and concepts

► Project manager

- ✓ The **person assigned** by the performing organization to **lead the project team** that is responsible for achieving the **project objectives**.
- ✓ **Project managers** perform a variety of **functions**, such as
 1. Facilitating the project **team work** to achieve the **outcomes**
 2. Managing the **processes** to deliver **intended outcomes**

► Project team

- ✓ A **set of individuals** performing the work of the project to achieve **its objectives**.

Key terms and concepts

CMAA defines project management as the use of integrated systems and procedures by a team of professionals during project design and construction. This chapter focuses on the key components and development of a project management plan (PMP) throughout the various project phases. In general, it outlines key goals and elements of managing a project under the construction management format. Later chapters expand upon the approach addressed here.

PMP has a procedure and many things related to this has been outlined in CMAA

The PMP typically establishes the project's:

- » Scope
- » Budget
- » Schedule
- » Environmental conditions
- » Basic systems
- » Methods and procedures
- » Basis for claims avoidance

Key terms and concepts

Additional components may be developed in later phases of the project as part of the construction management plan (CMP). A typical PMP includes the following basic components:

- » Project description
- » Scope of work
- » Milestone schedule
- » Master schedule
- » Quality management approach
- » Safety management plan
- » Reference to project documents
- » Project organization chart and staffing plan
- » Explanation of roles, responsibilities, and authority of team members
- » Project budget/work breakdown structure
- » Sustainability plan
- » Logistics, including temporary construction support requirements (i.e., laydown or marshaling area)
- » Environmental/archaeological considerations
- » Reference to project procedures manual
- » Management information system
- » Communications protocol (establish ground rules)
- » Bid packaging, contracting strategy, and delivery system evaluation
- » Site mobilization and utilization phase
- » Building Information Modeling (BIM) implementation strategy

Key terms and concepts

PROJECT PROCEDURES MANUAL

The CM drafts and edits the Project Procedures Manual with input from the team. The PMP clearly defines the team members' responsibilities, levels of authority, communication protocol, and the systems, methods, and procedures for project execution.

The manual should address the following:

- » Cost controls and systems required for monitoring and controlling project costs
- » Quality control and quality assurance program established by the team and how it is to be implemented
- » The project schedule and how it is to be developed, implemented, and maintained
- » Document control and specific project systems, methods, and procedures (i.e., bidding, payments, change orders, submittals, correspondence, reports, performance records, claim resolutions, etc.)
- » Functional responsibilities and limits of authority
- » Correspondence distribution matrix
- » Safety program
- » Checklists
- » Meetings listing (i.e., type, frequency)
- » Sample forms to be used
- » Detailed bidding and construction phase processes
- » Coordination among various prime contractors
- » Sustainability requirements
- » Risk and risk register
- » Regulatory requirements

Key terms and concepts

**Management Information System
Design Document Review
Contract Agreements
Public Relations
Project Funding
Meetings, Workshops, Charters
Bidding and Contracting Process
Etc.**

This is what you need do as a CM...

Key terms and concepts

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.

Key terms and concepts

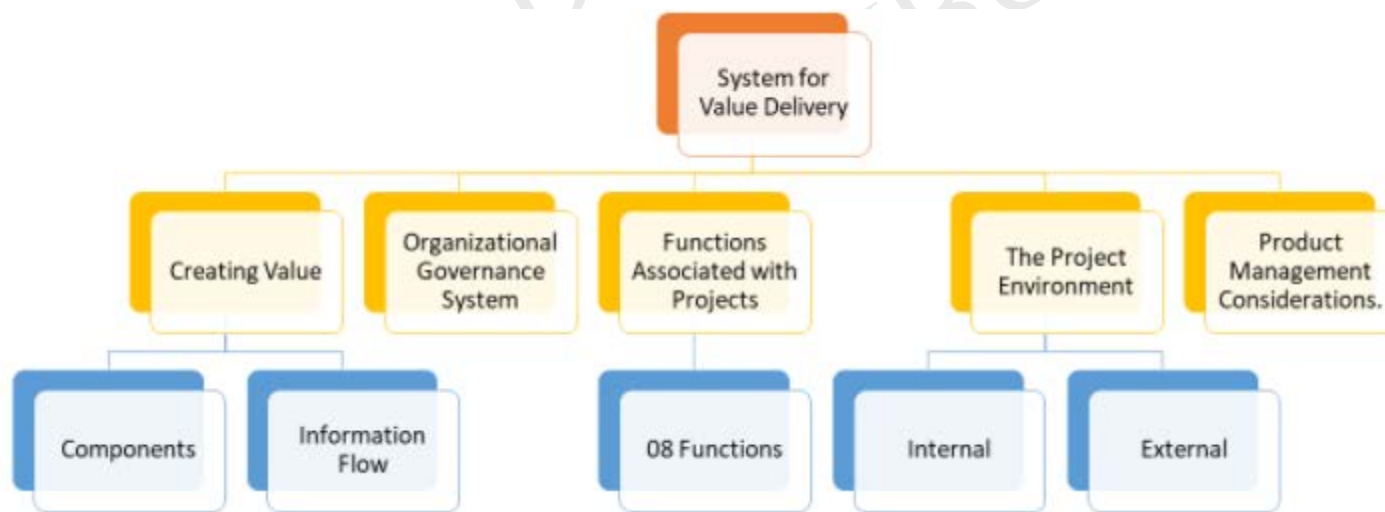
A professional construction manager manages the entire project and program with pre-planning, design, construction, close out, and management expertise that can assure the best possible project outcome no matter what type of project delivery method is used.



Key terms and concepts

► System for value delivery

- ✓ A **collection** of strategic business activities aimed at building, sustaining, and/or advancing an **organization**.
- ✓ Portfolios, programs, projects, products, and operations can all be **part of** an **organization's system** for value delivery.



Key terms and concepts

► Value

- ✓ The worth, importance, or usefulness of something.

Different **stakeholders** perceive value in different ways.

1. **Customers** can define value as the ability to use specific features or **functions of a product**.
2. **Organizations** can focus on **business value** as determined with financial metrics, such as the **benefits less the cost** of achieving those benefits.
3. **Societal value** can include the **contribution to groups** of people, communities, or the environment.

Value from the perspective of
Contractor and owner

Audience for this standard

- ▶ Are responsible or accountable for **delivering project outcomes**;
- ▶ **Work** on projects full or part time;
- ▶ **Work** in portfolio, program, or project management offices (PMOs);
- ▶ Are **involved** in project sponsorship, product ownership, product management, executive leadership, or project governance;
- ▶ Are **involved** with portfolio or program management;
- ▶ **Provide** resources for project work;
- ▶ **Focus** on value delivery for portfolios, programs, and projects;
- ▶ **Teach** or **study** project management; and
- ▶ Are **involved** in any aspect of the project value delivery chain.

Standard For Project Management
(7th Edition – A System For Value Delivery)

Standard in PMBOK 7th



Introduction

A system for value delivery

**Project management
principles**

Let's see more detail!

Introduction

► System for value delivery

- ✓ A **collection** of strategic business activities aimed at building, sustaining, and/or advancing an **organization**.
- ✓ Portfolios, programs, projects, products, and operations can all be **part of** an **organization's system** for value delivery.



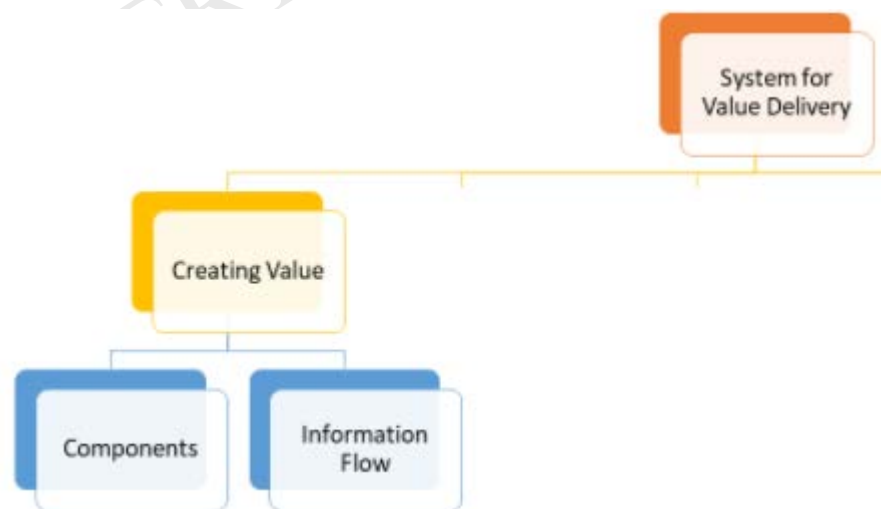
- The information in this section provides a context for value delivery, governance, project functions, the project environment, and product management.

Creating value

❑ **Organizations** create value for stakeholders.

❖ This standard uses the term **organization**

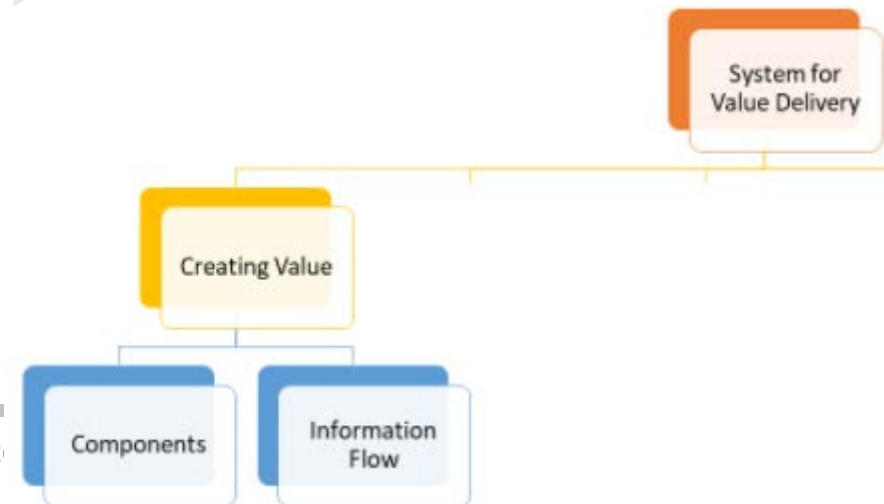
when referring to government agencies, enterprises, contractual arrangements, joint ventures, and other arrangements.



Creating value

❑ Examples of ways that **projects produce value** include, but are not limited to:

- ▶ Creating a **new product, service, or result** that meets the needs of customers or end users;
- ▶ Creating **positive social or environmental** contributions;
- ▶ **Improving** efficiency, productivity, effectiveness, or responsiveness;
- ▶ Enabling the changes needed to **facilitate organizational transition** to its desired future state; and
- ▶ **Sustaining benefits** enabled by previous programs, projects, or business operations.

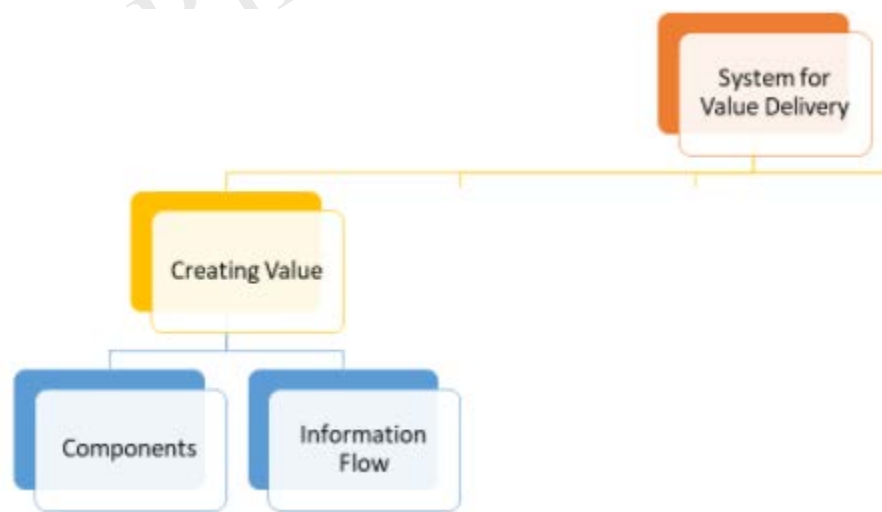


Creating value – Components

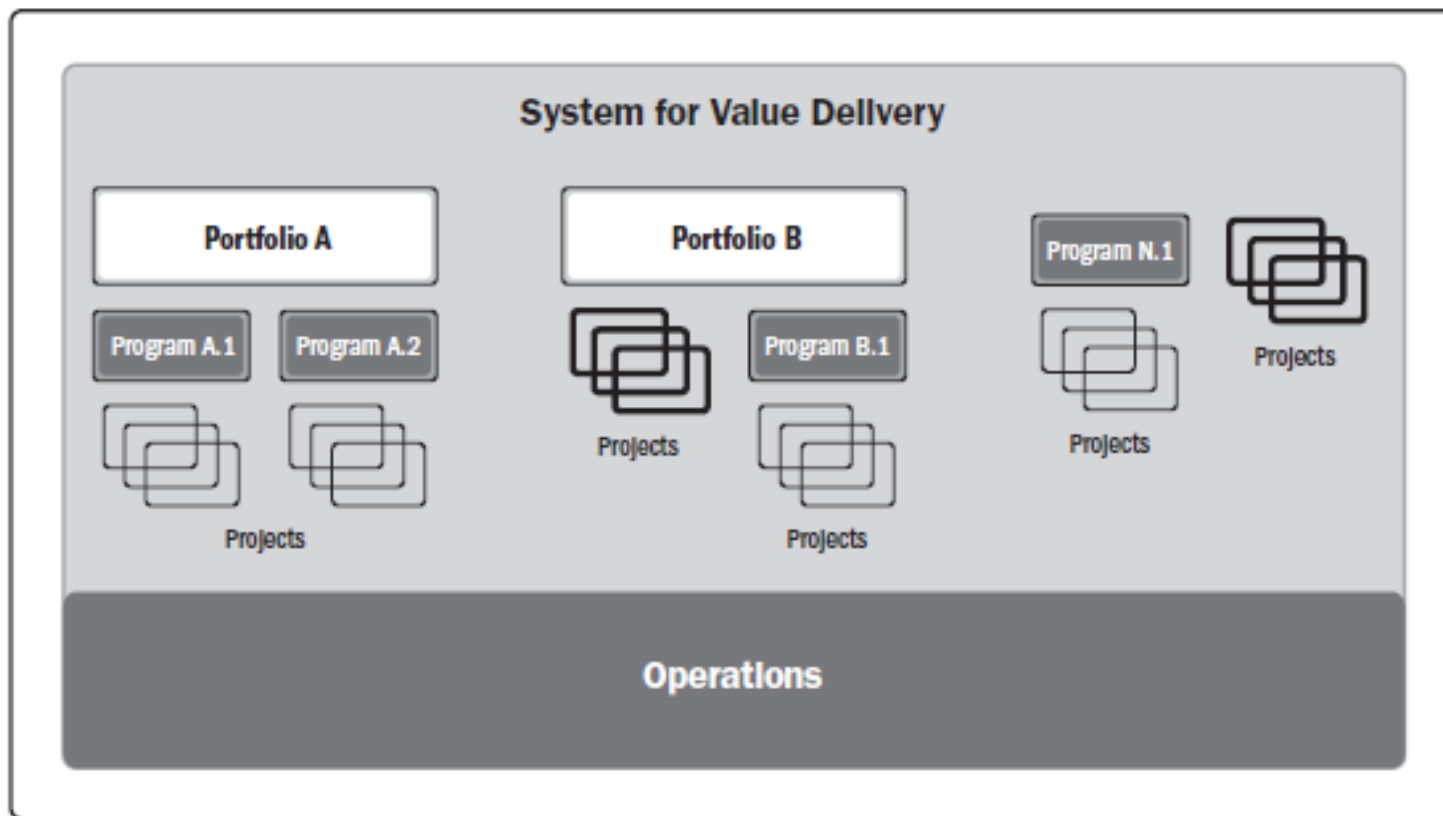
- ❑ There are **various components**, such as portfolios, programs, projects, products, and operations,

that can be used **individually** and **collectively** to create value.

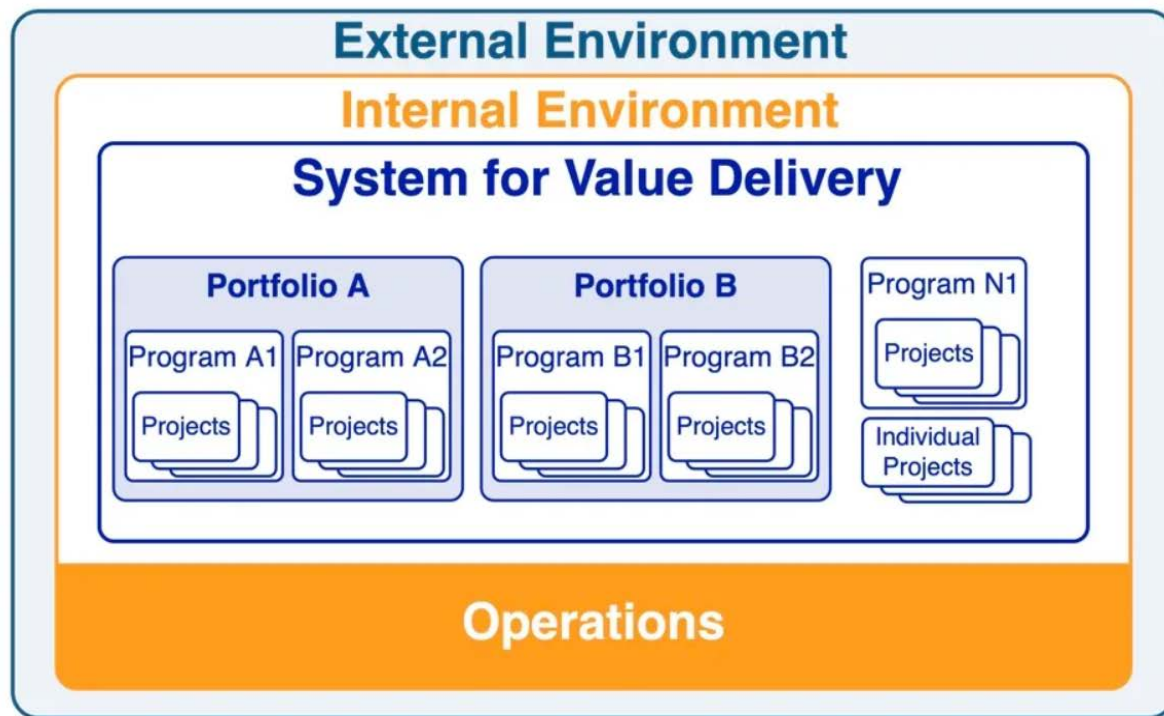
Working together, these components **comprise** a system for delivering value that is **aligned** with the **organization's strategy**.



Creating value – Components: Example



Creating value – Components: Example

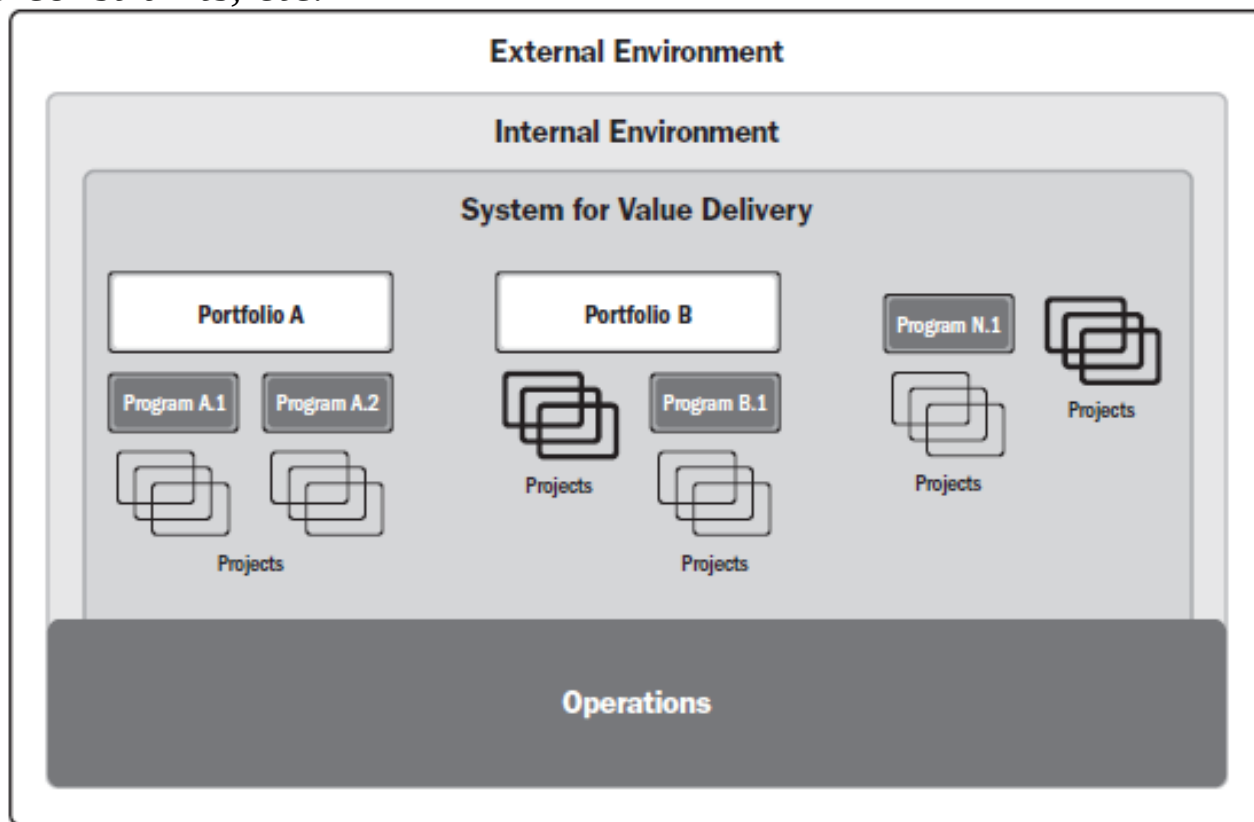


Components of a Sample Value Delivery System

Redrawn from Figure 2-2 of A Guide to the Project Management Body of Knowledge, Seventh Edition, PMI (2021)

Creating value – Components: Example

- ❑ Organization's **internal environment** is subject to policies, procedures, methodologies, frameworks, governance structures, and so forth.
- ❑ Organization's **external environment** includes the economy, the competitive environment, legislative constraints, etc.



Creating value – Components: Example

Environment	Internal: events under management control	CELL I	CELL II
	External: events not under management control	CELL III	CELL IV
		Administrative systems and procedures	Strategic long term planning
		Response	

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Creating value – Components: Example

Environment	Internal: events under management control	<u>CELL I</u> • BUDGETARY ISSUES • HUMAN AND ORGANIZATIONAL CAPITAL ISSUES	<u>CELL II</u> • ISSUES OF ADAPTATION TO MARKET CONDITIONS
	External: events not under management control	<u>CELL III</u> • BUSINESS ISSUES	<u>CELL IV</u> • MACROECONOMIC ISSUES
		Administrative systems and procedures	Strategic long term planning
		Response	

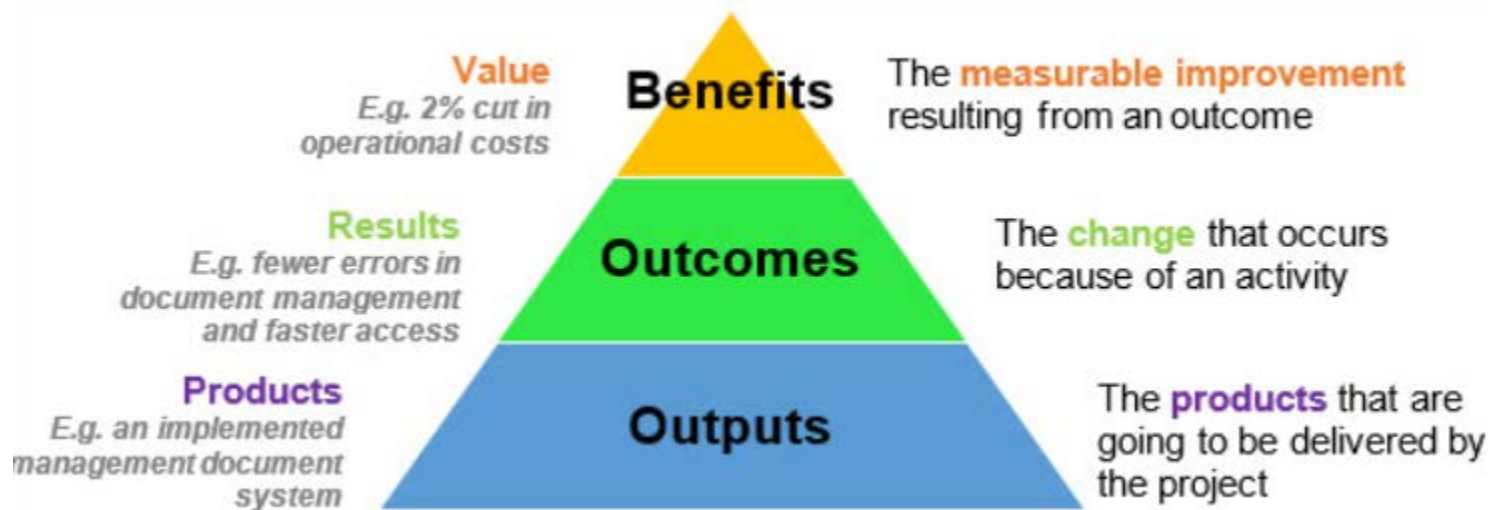
Creating value – Components: Example

Read it more from:

<https://dralavipour.com/blog/view/Construction-failure>

Creating value – Components: Example

- ❑ **Components** in a value delivery system **create deliverables** used to produce **outcomes**.
- ❖ An **outcome** is the **end result** or **consequence** of a process or a project.
- ❑ **Outcomes** create **benefits**, which are gains realized by the organization.
- ❑ **Benefits**, in turn, create **value**, which is something of worth, importance, or usefulness.

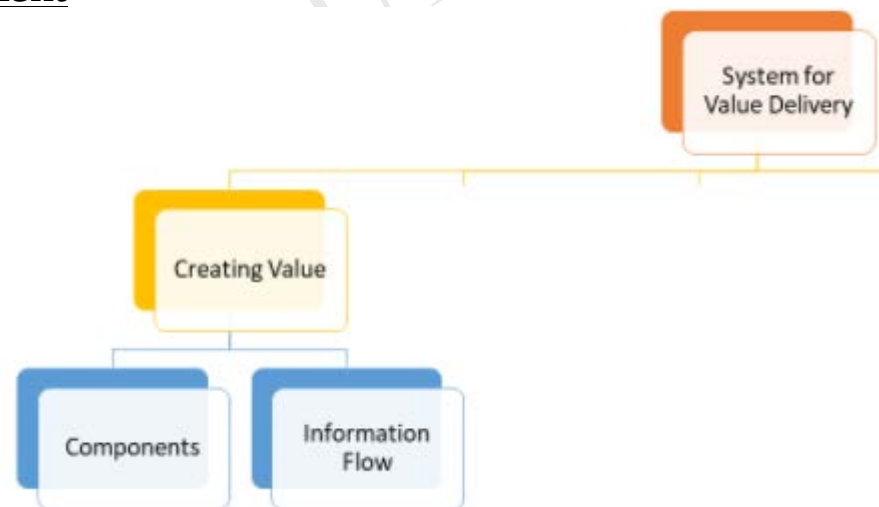


Creating value – Information flow

❑ A value delivery system works **most effectively**

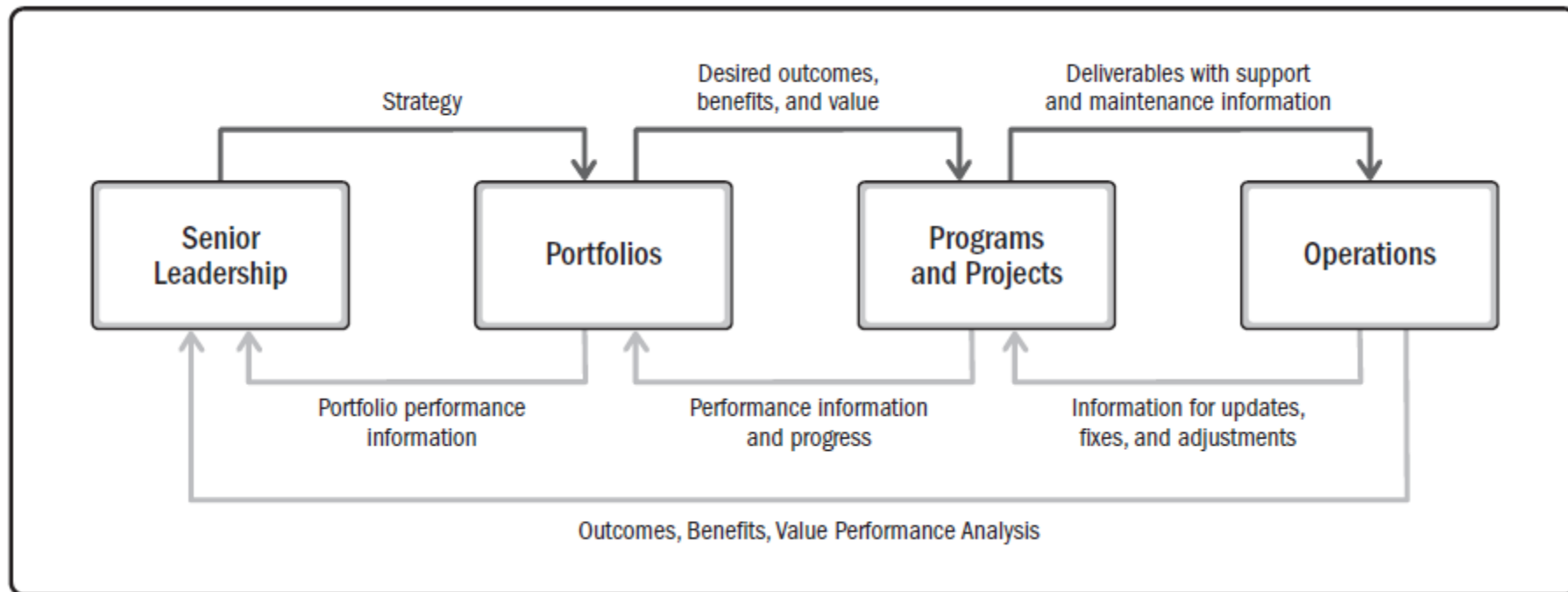
when information and feedback are **shared consistently** among **all components**,

1. Keeping the **system aligned** with strategy
2. **Attuned** to the environment



How this works in the projects?

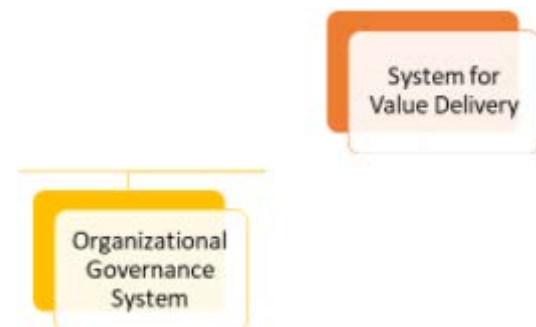
Creating value – Information flow: Example



Organizational governance systems

❑ The governance system

1. **Works** alongside the **value delivery system** to enable smooth workflows, manage issues, and support decision making.
2. **Provides** a **framework** with functions and processes that guide activities.
 - ❖ A **governance framework** can include elements of oversight, control, value assessment, integration among components, and decision-making capabilities.



Organizational governance systems

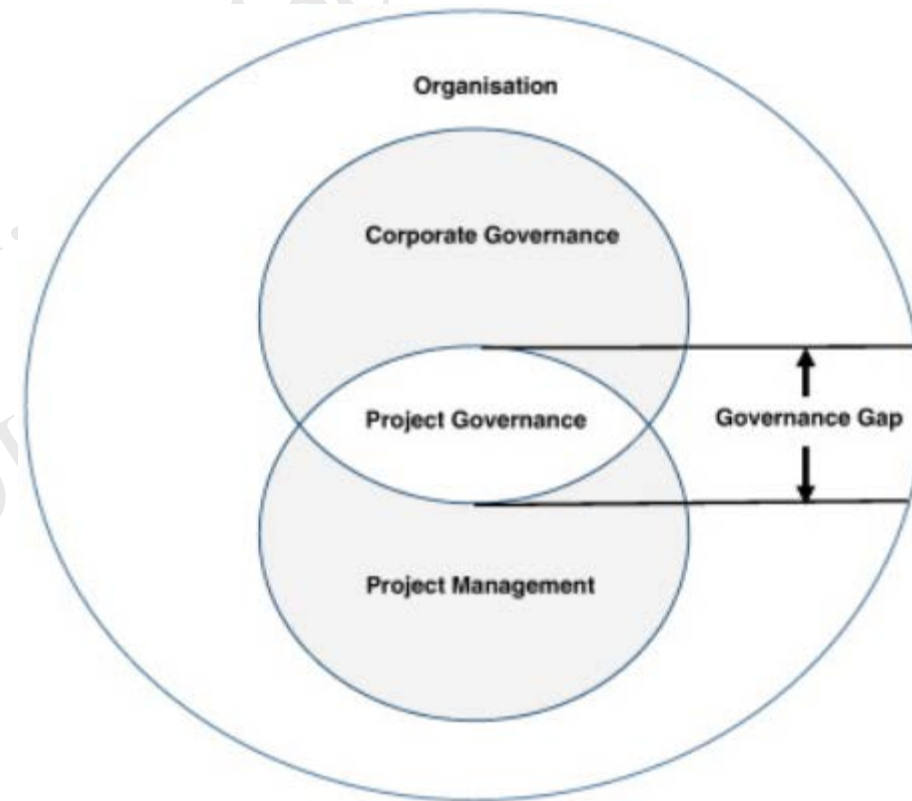
Governance systems provide an integrated structure for *evaluating changes, issues, and risks associated with the environment and any component in the value delivery system.*

This includes portfolio objectives, program benefits, and deliverables produced by projects.



Organizational governance systems in relation with project governance

- ❑ **Projects** can operate within a program or portfolio or as a stand-alone activity.
- ❑ In some organizations, a **project management office** might support programs and projects **within a portfolio**.
- ❑ **Project governance** is **aligned** with
program and/or organizational
governance.
- ❑ **Project governance** includes
 1. **Defining** the **authority** to approve changes
 2. **Make other business decisions** related to the project



Project governance framework

The Project Governance Framework



Functions associated with projects

- ❑ **Functions** related to the project can be **fulfilled** by one person, by a group of people, or combined into defined roles.



**Coordinating is a key here...
How?**

Functions associated with projects

- ❑ There are **different types of coordination** suitable for different contexts.
1. Decentralized coordination in which project team members self-organize and self-manage.
 2. Centralized coordination with the leadership and guidance of a designated project manager or similar role.
 3. Centralized coordination can also benefit from including self-organized project teams for portions of the work.

Which one is more related to the construction industry?



Functions associated with projects

The project team may be supported by **additional functions** depending on the deliverables, industry, organization, and other variables.

Next Sections provide examples of **functions** that are often found on projects, though these are not a comprehensive list.



Functions associated with projects – Provide oversight and coordination

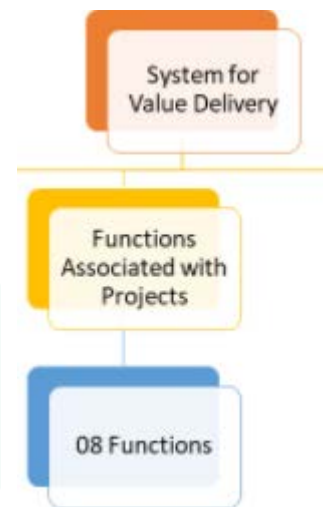
❑ People in this function **help the project team** achieve the project objectives, typically by orchestrating the work of the project.

- ❖ **Coordination**: **consulting** for advancing or **assisting** in analysis
- ❖ **Oversight**: **involved** in follow-on activities related to benefits realization and sustainment

after the project deliverables are **finalized**
but **before formal closure** of the project

It is a **very conceptual** and many people in construction industry **cannot even understand the difference!**

Let's see the better way of representation that has been presented by CMAA!



Functions associated with projects – Provide oversight and coordination

The following is a summary of the Internal Quality Check (IQ√) system developed as a result of several contract performance audits.



TERMINOLOGY OF ROLES & RESPONSIBILITIES

The following are key definitions to look for in your contracts and, if used be sure they are clearly stated and match where you believe you are responsible.

Oversight

Monitor management/coordination activities

Management

Oversight of day to day activities

Lead Action

Primary Team member, day to day implementation

Support/Assist

Provide information to Primary Team member

Coordinate

Facilitate lead and support actions

**Do you remember this?
What roles AE, contractor, CM, etc.
take in different delivery systems?**

Functions associated with projects – Present objectives and feedback

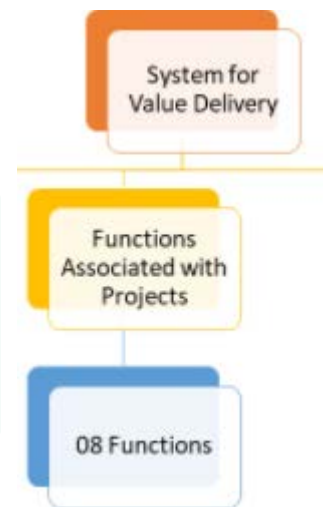
❑ People in this function **contribute** perspectives, insights, and clear direction from **customers** and **end users**.

❖ For the purpose of **this standard**,

- ✓ **Customer** is defined as the individual or group who has requested or is funding the project.
- ✓ **End user** is the individual or group who will experience the direct use of the project deliverable.

It is a **common** concept in **IT projects**,
but construction industry with **traditional delivery systems**
are somewhat different!

WHY?



Functions associated with projects – Present objectives and feedback

The customer and end user input and feedback **needs** are determined by

1. **Nature** of the project
2. **Guidance** or **direction** required



Functions associated with projects – Facilitate and support

❑ The function of **facilitation and support** may be closely related to providing **oversight and coordination**, depending on the **nature of the project**.

❖ **Facilitation**: helps the project team create consensus around solutions, resolve conflicts, and make decisions.

❖ **Supporting**:

❖ **Supporting** people through change and **helping** address obstacles

❖ **Evaluating** performance and **providing** individuals and project teams with feedback to help them learn, adapt, and improve.



Functions associated with projects – Perform work and contribute insights

❑ This group of people **provides** the knowledge, skills, and experience necessary to **produce** the products and **realize** the outcomes of the project.

❖ **Gaining insights** from **cross-functional project team members** representing different parts of the organization can

1. **Provide** a mix of internal perspectives,
2. **Establish** alliances with key business units,
3. **Encourage** project team members to act as change agents within their functional areas.



Functions associated with projects – Apply expertise

❑ People in this function **provide** the knowledge, vision, and expertise in a **specific subject** for a project.

- ❖ External or internal team members
- ❖ Required for the whole project or during a specific time frame



Functions associated with projects – Provide business direction and insight

- ❑ People in this function **guide** and **clarify** the direction of the project or product **outcome**.
- ❖ This function involves **prioritizing** the requirements or backlog items based on business value, dependencies, and technical or operational risk.
 - ✓ **Goal** is to **maximize** the value of the **project deliverable**.



Functions associated with projects – Provide resources and direction

☐ People in this function

1. **Promote** the project
2. **Communicate** the organization's vision, goals, and expectations to the project team and broader stakeholder community.
- ❖ They **advocate** for the project and the project team
by **helping** to secure the decisions, resources, and authority that allow

People in this function

1. Serve as **liaisons** between senior management and the project team,
2. Play a **supporting role** in keeping projects aligned to business objectives,
3. Remove **obstacles**,
4. Address **issues** outside the bounds of the project team's decision authority.

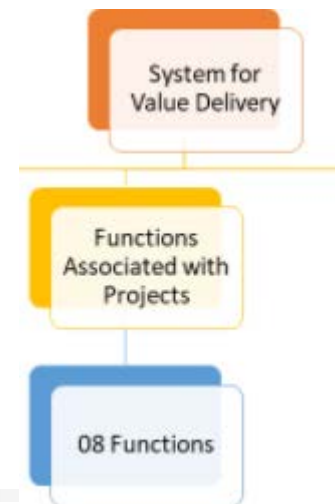


Functions associated with projects – Provide resources and direction

This **function** can facilitate innovation by

1. Identifying opportunities that arise **within the project**
2. Communicating these to **senior management**

People in this function may monitor project outcomes after project closure to ensure the **intended business benefits** are realized.



Functions associated with projects – Maintain governance

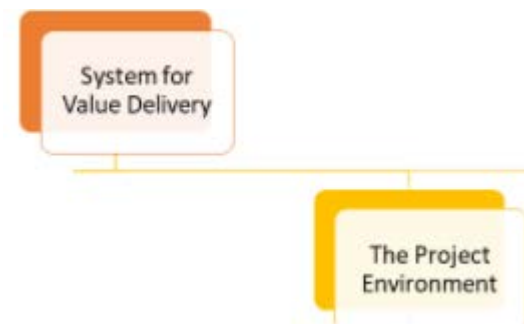
❑ People who fill a **governance function**

1. Approve and support **recommendations** made by the **project team**
2. Monitor project **progress** in achieving the **desired outcomes**
 - ❖ They **maintain linkages** between project teams and strategic or business objectives
that can **change** over the course of the project.



The project environment

- ❑ External and internal
- ❑ Influence planning and other project activities



The project environment – Internal environment

❑ **Factors internal** to the organization **can arise**

from the organization itself, a portfolio, a program, another project, or a combination of these.

❖ They include **artifacts**, **practices**, or **internal knowledge**.

Knowledge includes

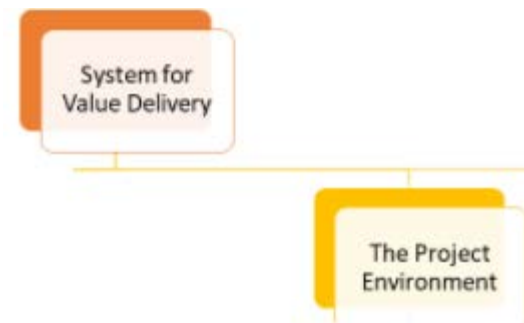
1. Lessons learned
2. Completed artifacts from previous projects.



Let's see some examples

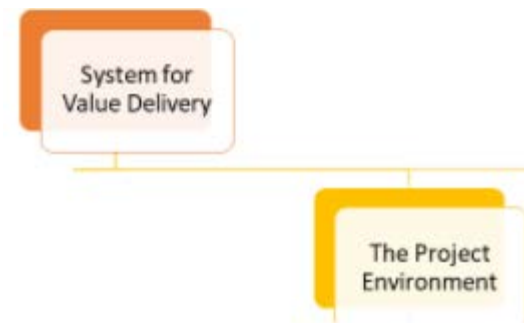
The project environment – Internal environment: Examples

- ▶ **Process assets.** Process assets may include tools, methodologies, approaches, templates, frameworks, patterns, or PMO resources.
- ▶ **Governance documentation.** This documentation includes policies and processes.
- ▶ **Data assets.** Data assets may include databases, document libraries, metrics, data, and artifacts from previous projects.
- ▶ **Knowledge assets.** Knowledge assets may include tacit knowledge among project team members, subject matter experts, and other employees.
- ▶ **Security and safety.** Security and safety measures may include procedures and practices for facility access, data protection, levels of confidentiality, and proprietary secrets.
- ▶ **Organizational culture, structure, and governance.** These aspects of an organization include the vision, mission, values, beliefs, cultural norms, leadership style, hierarchy and authority relationships, organizational style, ethics, and code of conduct.



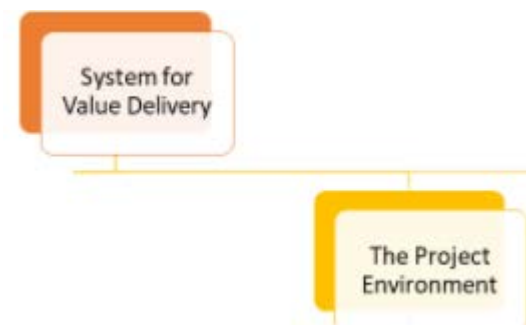
The project environment – Internal environment: Examples

- ▶ **Geographic distribution of facilities and resources.** These resources include work locations, virtual project teams, and shared systems.
- ▶ **Infrastructure.** Infrastructure consists of existing facilities, equipment, organizational and telecommunications channels, information technology hardware, availability, and capacity.
- ▶ **Information technology software.** Examples include scheduling software, configuration management systems, web interfaces to online automated systems, collaboration tools, and work authorization systems.
- ▶ **Resource availability.** Examples include contracting and purchasing constraints, approved providers and subcontractors, and collaboration agreements. Availability related to both people and materials includes contracting and purchasing constraints, approved providers and subcontractors, and time lines.
- ▶ **Employee capability.** Examples include general and specialized expertise, skills, competencies, techniques, and knowledge.



The project environment – External environment

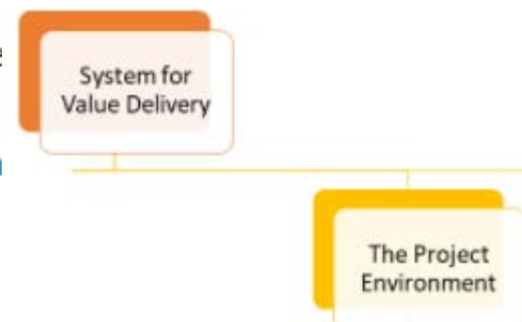
- ❑ **Factors external** to the organization can enhance, constrain, or have a neutral influence on **project outcomes**.



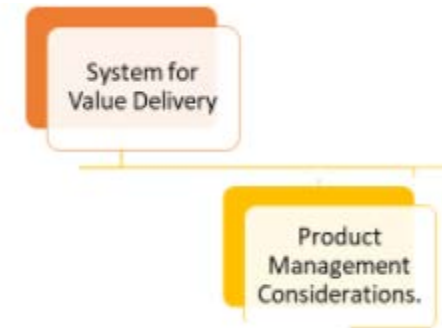
Let's see some examples

The project environment – External environment: Examples

- ▶ **Marketplace conditions.** Marketplace conditions include competitors, market share, brand recognition, technology trends, and trademarks.
- ▶ **Social and cultural influences and issues.** These factors include political climate, regional customs and traditions, public holidays and events, codes of conduct, ethics, and perceptions.
- ▶ **Regulatory environment.** The regulatory environment may include national and regional laws and regulations related to security, data protection, business conduct, employment, licensing, and procurement.
- ▶ **Commercial databases.** Databases include standardized cost estimating data and industry risk study information.
- ▶ **Academic research.** This research can include industry studies, publications, and benchmarking results.
- ▶ **Industry standards.** These standards are related to products, production, environment, quality, and workmanship.
- ▶ **Financial considerations.** These considerations include currency exchange rate interest rates, inflation, taxes, and tariffs.
- ▶ **Physical environment.** The physical environment pertains to working condition and weather.



Product management considerations



❑ A **product** is an **artifact** that is

1. Produced
2. Quantifiable
3. Either an end item itself or a component item

❑ **Product management** involves the **integration** of people, data, processes, and business systems

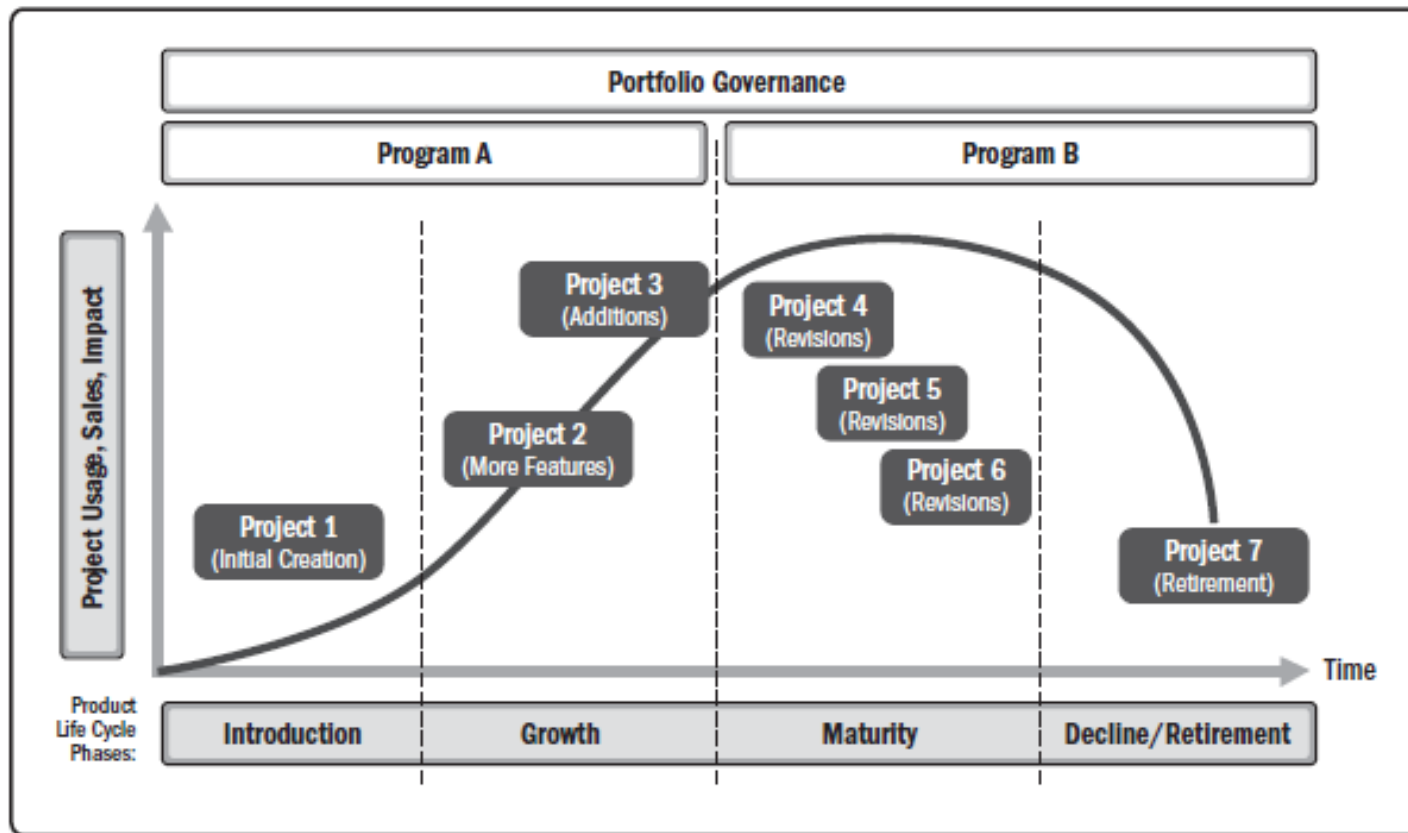
to **create, maintain, and develop** a product or service throughout its **life cycle**.

❑ The **product life cycle** is a **series of phases**

that represents the **evolution** of a product,

from introduction through growth, maturity, and to retirement.

Product management considerations



Sample Product Life Cycle

What forms exist for **product management**?

Product management considerations

What forms exist for **product management**?

- ▶ **Program management within a product life cycle.** This approach incorporates related projects, subsidiary programs, and program activities. For very large or long-running products, one or more product life cycle phases may be sufficiently complex to merit a set of programs and projects working together.
- ▶ **Project management within a product life cycle.** This approach oversees development and maturing of product capabilities as an ongoing business activity. Portfolio governance charters individual projects as needed to perform enhancements and improvements or to produce other unique outcomes.
- ▶ **Product management within a program.** This approach applies the full product life cycle within the purview and boundaries of a given program. A series of subsidiary programs or projects will be chartered to achieve specific benefits for a product. Those benefits can be enhanced by applying product management competencies like competitive analysis, customer acquisition, and customer advocacy.

Standard For Project Management
(7th Edition – Project Management Principles)

موسسه مهندسی و مدیریت ساخت علوی پور (ACEMI)

دفتر آموزش



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