

Project Charter and Scope

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Project Charter and Scope

What are we going to talk about today?

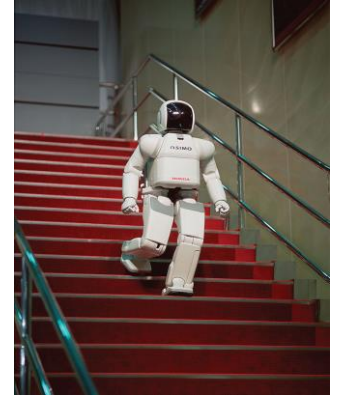
- What is a Project
- Project Charter – The **license** to work
- Project Stakeholders – The **influencers** and **beneficiaries** of the project
- Project Scope – **What** will the project deliver, and **not** deliver
- Work Breakdown Structure (WBS) – Clear and **complete** description of the desired **output**

What is A Project

What is a Project?

Project. A **temporary** endeavour undertaken to create a **unique** product, service or result

PMBOK Guide (7th Ed), Part 1, Sec. 1.2



Establishing Project Priorities

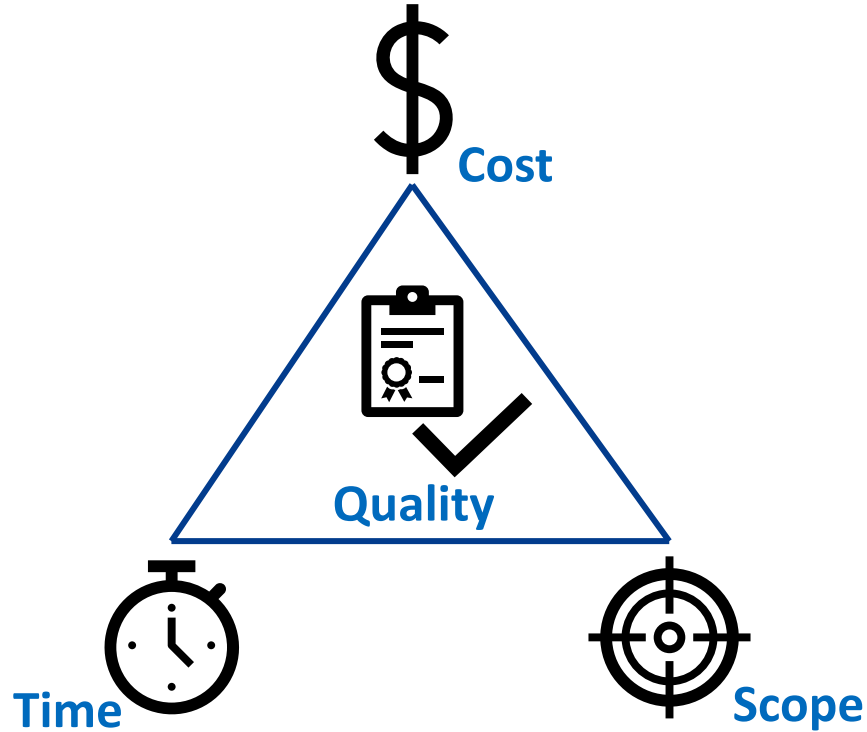
Quality and the ultimate **success** of a project are traditionally defined as **meeting** and/or **exceeding** the **expectations** of key stakeholders (Customer or upper management).

It is often measured in terms of

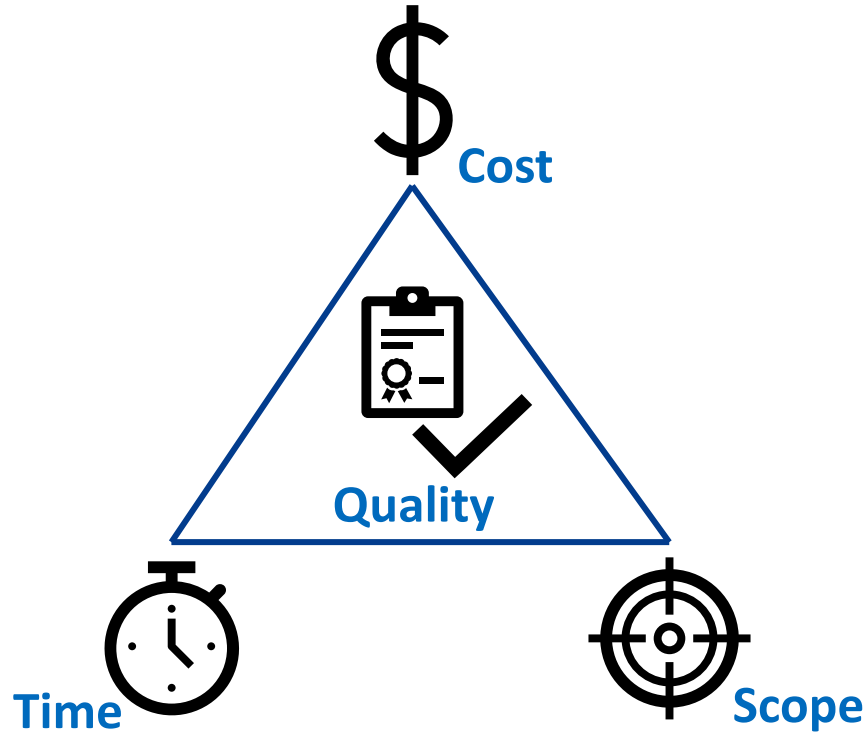
- **Cost** (Budget)
- **Time** (Schedule)
- **Scope** (Performance/Quality)



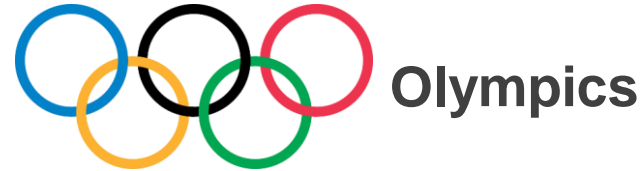
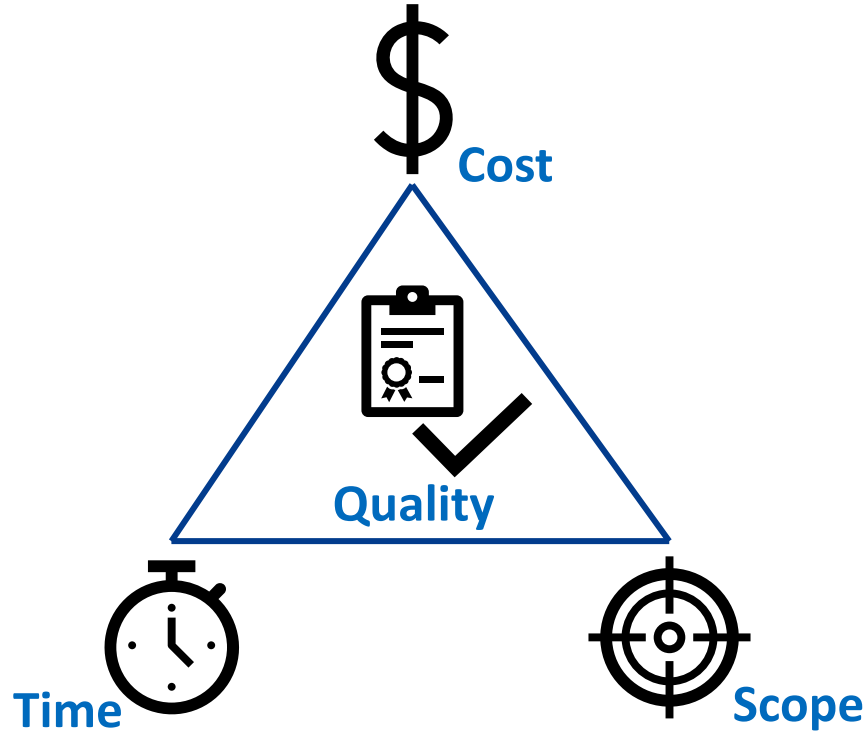
Triple Constraint Model



Triple Constraint Model is **NOT** the Talent Triangle



Key Project Driver



Trade Offs / Compromises

Causes of Trade-offs

- Shifts in the **relative importance** of criteria related to cost, time and scope

Managing the priorities of project trade-offs

- **Constrain**
 - A parameter is fixed requirement.
- **Enhance**
 - Optimising a criterion over others.
- **Accept**
 - Reducing (or not meeting) a criterion requirement



Project Priority Matrix

The purpose is to **define and agree** on what the **priorities** and **constraints** of the project are so that the right decisions can be made at the appropriate time

CONSTRAIN

Fixed requirement

ACCEPT

Let this factor be as large as necessary

ENHANCE

Actively work to optimise this factor

Time	Performance	Cost



Nuclear power plant

Project Charter

The **License** to work

Project Charter Vocabulary



Strategic goals

Describe the **direction of change** of the organisation

‘Company **strategy** is to **innovate** and **improve** our **services** faster than our competitors.’



Objectives

Specific achievements resulting from the project work, that can be measured.

‘The objective of this project is to design and implement a **new** customer **feedback system**.’



Deliverables

The **tangible results** of doing project work, that can be verified.

New **menu structure**, **plan** for customer journey, **graphics design brief**...

Setting SMART(A) objectives

A Multi-resolution Manufacturing cell...

Specific | A **robot cell**... for research into **incremental forging technology**

Measurable | A robot cell for research into incremental forging technology... that will be **used** by **PhD students** and **student project teams**

Action-oriented | **Design** and **Build**... an MM robotic cell for research into incremental forging technology that will be used by PhD students and student project teams

Realistic | All areas

Timely | Design and Build an MM robotic cell for research into incremental forging technology that will be used by PhD students and student project teams... **within six months**

(Achievable) | All areas

Project Charter Vocabulary

Requirements

What the project **deliverables** or other outputs must do for the **stakeholders**

‘Customers must be able to **provide feedback** and **comments** to us at any point in their customer journey.’

Scope (scope statement)

A written description of the **project boundaries** in and major **deliverables**.

‘The project includes an **app** to enter information; it does **not** include a **database**’

Scope (Work Breakdown Structure)

A **systematic, hierarchical decomposition** of all the deliverables into constituent parts

‘The new customer feedback system includes a mobile app to enter information; it does not include a database to store historical data.’

Benefits*

The (positive) **effects** that occur when **stakeholders** interact with the **deliverables**.

‘The new customer feedback system will **show** our marketing team **how** our **services are performing** straight away’

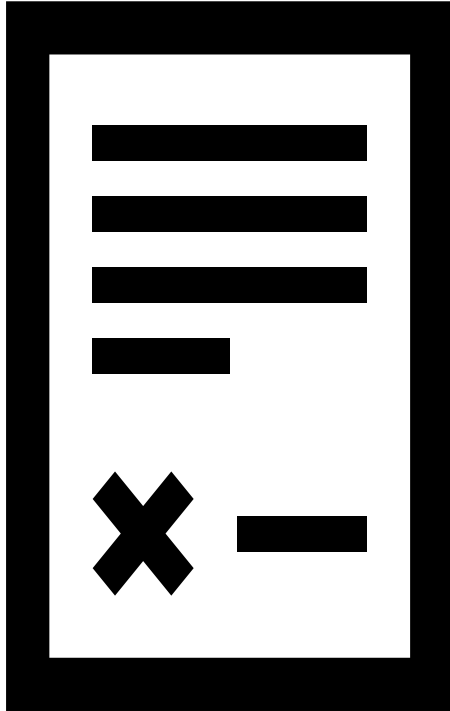
* **Enabled** by the project, not delivered

The Project Charter | Purpose

- Formally **authorises** the existence of the **project**
- **Gives** the project manager **authority** to apply resources to project activities
- Provides a **direct link** between the **project** and the **strategic objectives** of the organisation
- Shows organisation **commitment** to the project
- Creates a **formal record** of the existence of the project

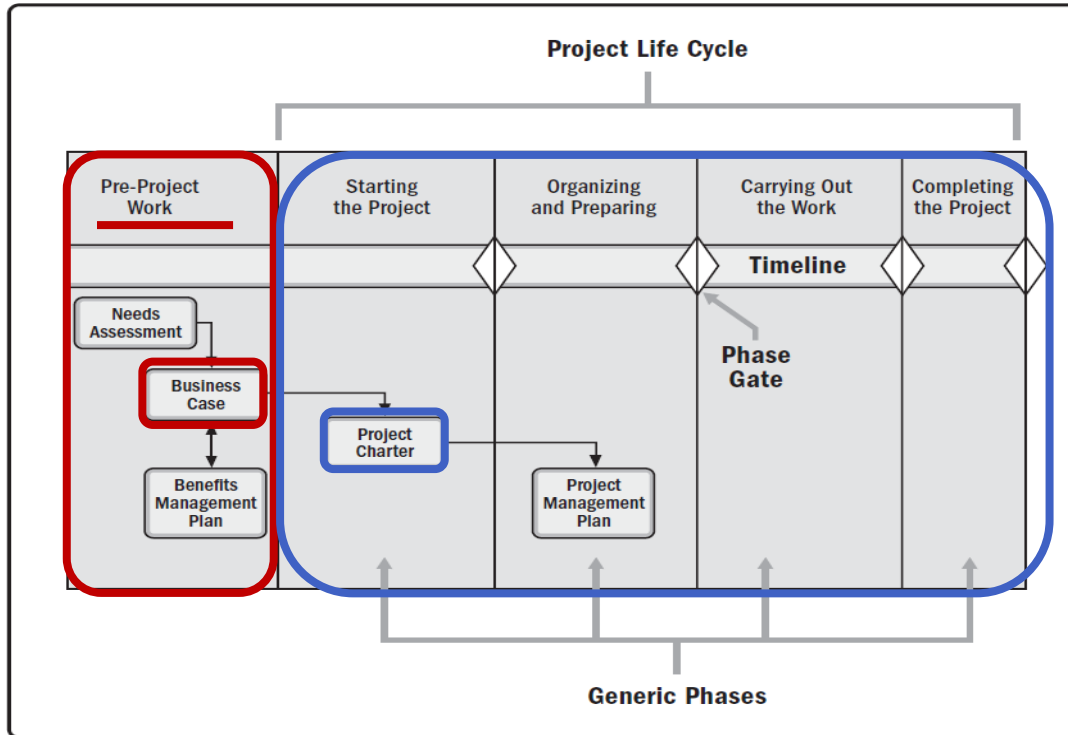
PMBOK Guide (6th Ed), Part 2, Sec. 2

What goes into your Project Charter?



- The business **need** and **justification**.
- The **current** understanding of the new product or service.
- Measurable project objectives and **success** criteria.
- Identified **risks**, **constraints**, and **assumptions**.
- Overall **milestone** schedule.
- Summary **budget**.
- Product and Project **approval** requirements (who decides the product is accepted, and who signs off the project).
- The assigned **project manager** and the delegated authority.
- The **project sponsor** – authorising the project to start.

Business Case and Charter in the project lifecycle



The business case contains at least these supporting elements:

- **Business need:** Business provides the rationale for the project. It provides details about the business goals and objectives.
- **Project Justification:** It explains why the business need is worth the investment and why it should be addressed at this time.
- **Business Strategy:** Business Strategy is the reason for the project and all needs are related to the strategy to achieve the value.

Figure 1-8. Interrelationship of Needs Assessment and Critical Business/Project Documents

PMBOK Guide (6th Ed), Part 1, Sec. 1.2.6

Project Stakeholders

The **influencers** and the **beneficiaries** of the project

Stakeholders

Stakeholder: An individual, group, or organisation that may **affect**, be **affected by**, or perceive itself to be affected by a decision, activity, or outcome of a project.

Stakeholder Analysis: A method of systematically gathering and **analysing** quantitative and qualitative information to determine whose **interests** should be considered throughout the project.

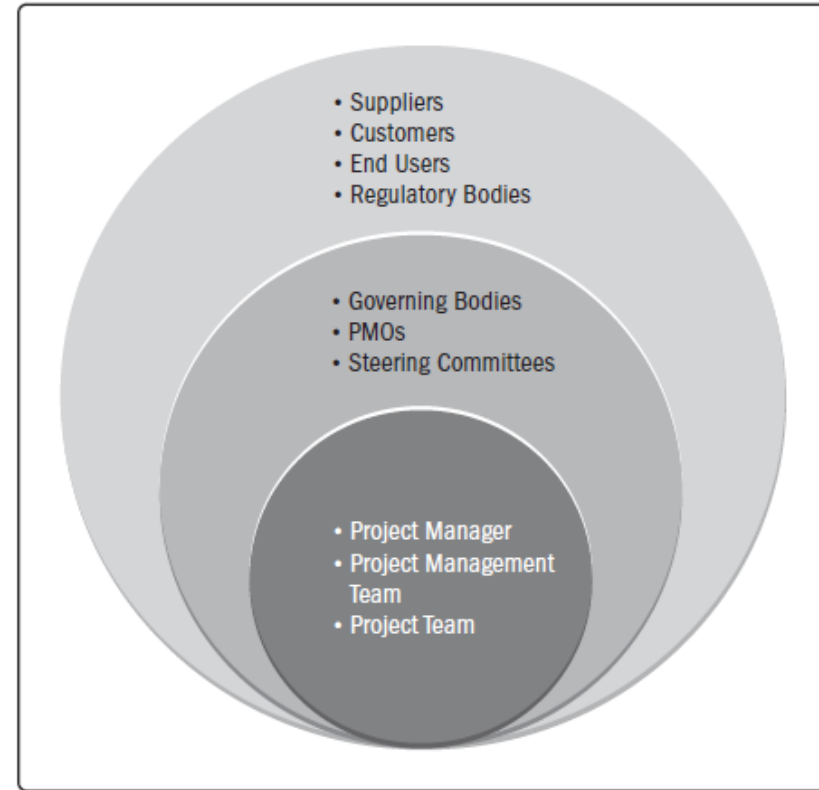


Figure 2-2. Examples of Project Stakeholders

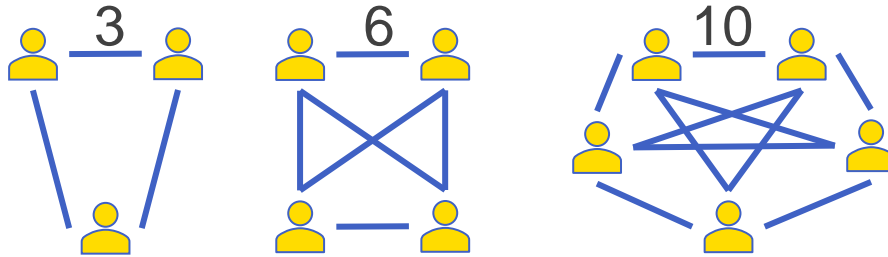
PMBOK Guide (7th Ed), Part 2, Sec. 2.1

Project team and project stakeholders



1. Why can't you have too many people in a team?

Too many communication channels = Too much complexity.



15, 21, 28...

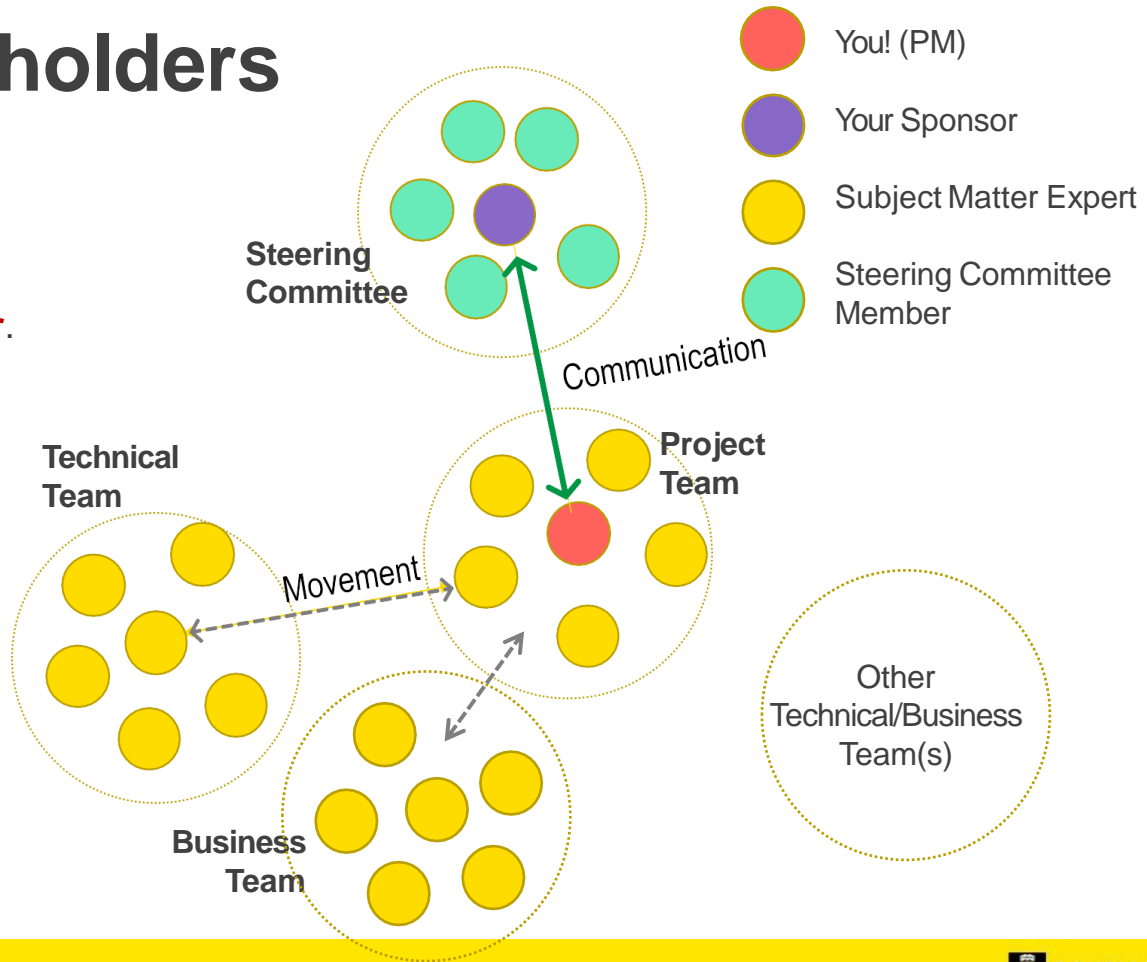
$$\frac{n(n-1)}{2}$$

2. Therefore, we need to introduce some **structure** around **communication channels** and team members

- Communication structures created by the PM

Project key stakeholders

- **PM** has a **central coordinating role** for the project team.
- **PM** needs a **strong 2-way line** of communication to the Project **Sponsor**.
- **Sponsor chairs** steering committee, uses it to make timely decisions.
- Subject Matter Experts have **leading role** in their technical/business teams
- **Technical Teams** can be **internal** to project executing organisation or could be **contractors** or **suppliers**
- There can be **many** technical teams



Stakeholder Identification

After understanding the business case, the organisational context and needs for the project, the **first step** in planning is to **identify** the project **stakeholders**.

Identifying and analysing your stakeholders is the best way to start writing the project charter...

PMBOK Guide (6th Ed), Part 2, Sec. 1.6

PMBOK Guide (6th Ed), Part 1, Sec. 13.1 & 13.1.2

Stakeholder Engagement

- Stakeholder engagement includes implementing strategies and actions to **promote productive involvement** of stakeholders.
- Stakeholder engagement activities **start before** or when the project starts and **continue throughout** the project.

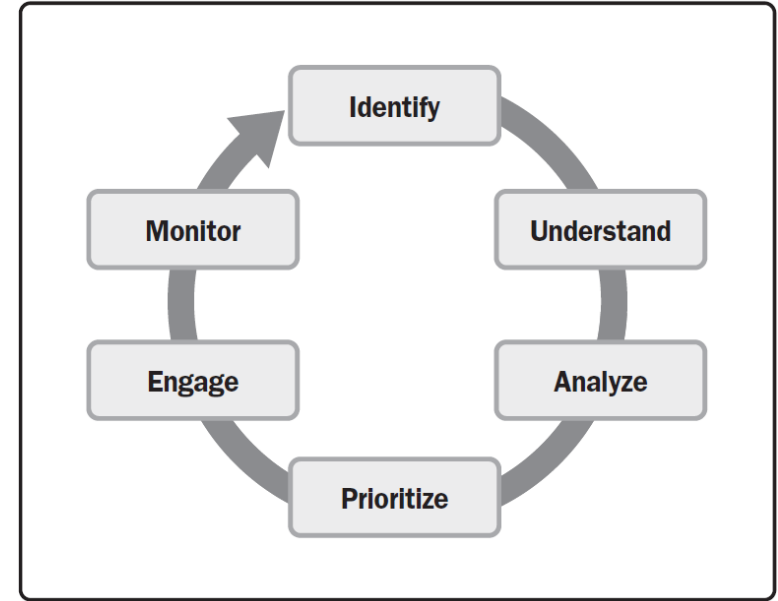


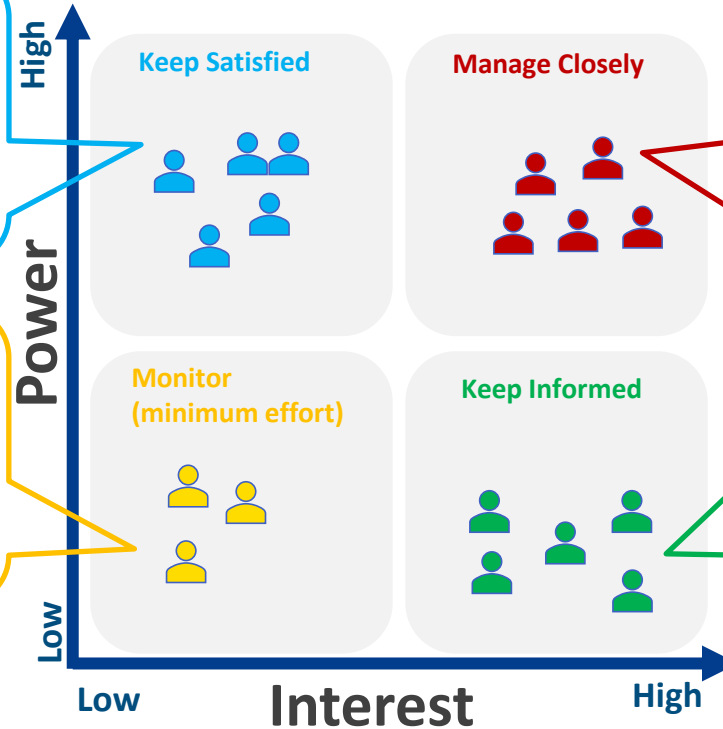
Figure 2-3. Navigating Effective Stakeholder Engagement

PMBOK Guide (7th Ed), Part 2, Sec. 2.1.1

Stakeholder analysis

- Keep in loop
- Be careful, they can **impact the success** of the project even if they are not interested










- **Monitor**
- Don't bore them with a lot of information



- **Decision makers**
- Biggest impact on project success
- Closely manage their expectations

- Help with the **details** of the project
- Talk to them to pre-empt any major issues

Engagement Strategy

Stakeholder	Unaware	Resistant	Neutral	Supportive	Leading
LI/LP 	C 		D		
HI/LP 				CD	
LI/HP 	C 			D	
HI/HP 			C 		D
HI/LP 		C 		D	

C = Current position

D = Desired position

Minimum desired position for

LI/LP

LI/HP & HI/LP

HI/HP

More videos on project stakeholders

[Kasimtseva, N. “Identify Project Stakeholders” video in course Managing Project Stakeholders, accessed 16/02/2021, LinkedIn Learning accessed through UNSW](#)

[Biafore, B. “Identify Project Stakeholders” video in course Project Management Foundations accessed 16/02/2021, LinkedIn Learning accessed through UNSW](#)

[Biafore, B. “Analyze project Stakeholders” video in course Project Management Foundations accessed 16/02/2021, LinkedIn Learning accessed through UNSW](#)

Project Scope

What will the project deliver, and **not** deliver

Project failure surveys

No. 1: “The project was not adequately defined at the beginning.”

No. 3: “a lack of clearly defined project goals and objectives.”

No. 5: “project planning was done with insufficient data.”

Also: “poor work definition.”



“35–50% of failed projects are due to poorly defined scope”

[Black, K. \(1996\). Causes of project failure: a survey of professional engineers. *PM Network*, 10\(11\), 21–24.](#)

Collecting Requirements (PM Methods)

- Brainstorming
- Interviews
- Focus Groups
- Questionnaires and surveys
- Benchmarking
- Document analysis:
 - Specifications, RFPs
 - Standards
 - Regulations
- Affinity diagramming
- Mind mapping
- Nominal group technique (Delphi methods - [wikipedia](#))
- Observation
- User stories (Agile)

[Dwivedi, N. "Elicitation Techniques" video in course Software Design: Developing effective requirements, accessed 23/02/2021, LinkedIn Learning accessed through UNSW](#)



Project Scope Vocabulary

Product Scope. The **features** and functions that characterise a product, service, or result.

Project Scope. The **work** performed to deliver a product, service, or result with the specified features and functions.

Project Scope Statement. The **description** of the project scope, major deliverables, and **exclusions**.



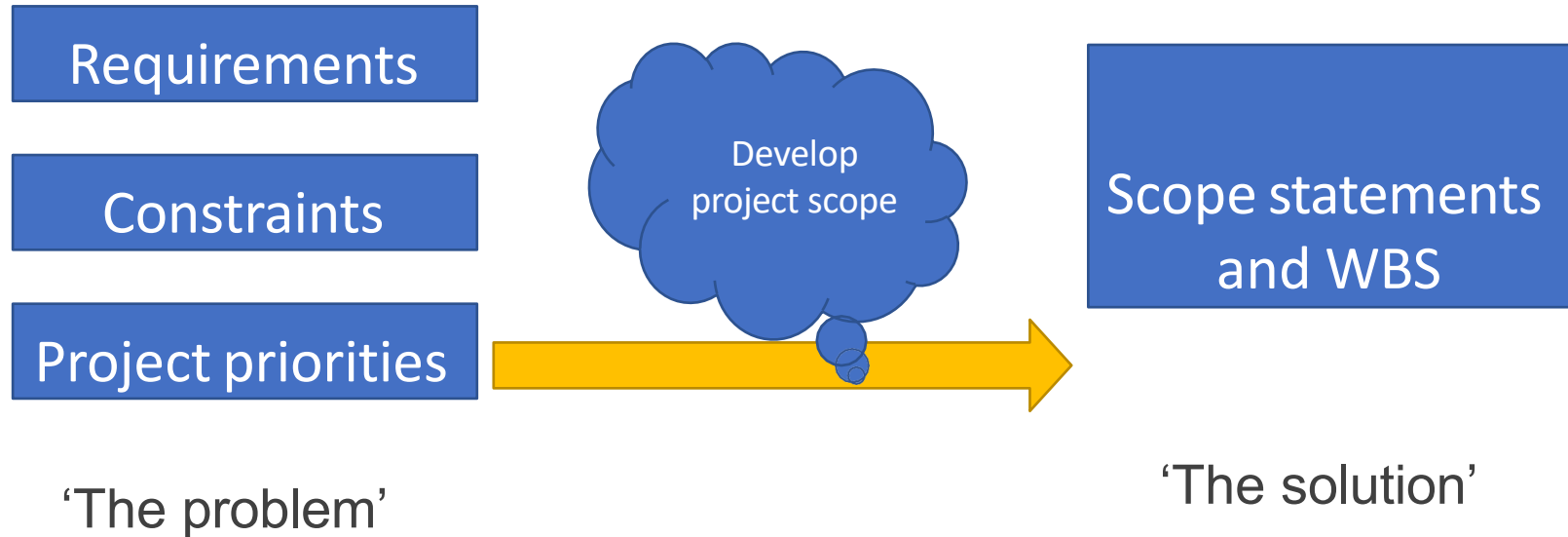
Scope Baseline. The **approved** version of a scope statement, work breakdown structure (WBS), and its associated WBS dictionary that can be changed using formal change control procedures and is used as the basis for **comparison to actual results**.

Scope Creep. The **uncontrolled** expansion to product or project scope without adjustments to time, cost, and resources.

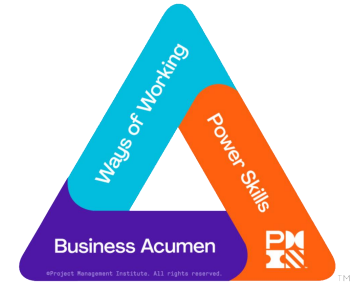
PMBOK Guide (7th Ed), Part 2, Glossary

The challenge in scope definition

Scope definition is the creative center of project management



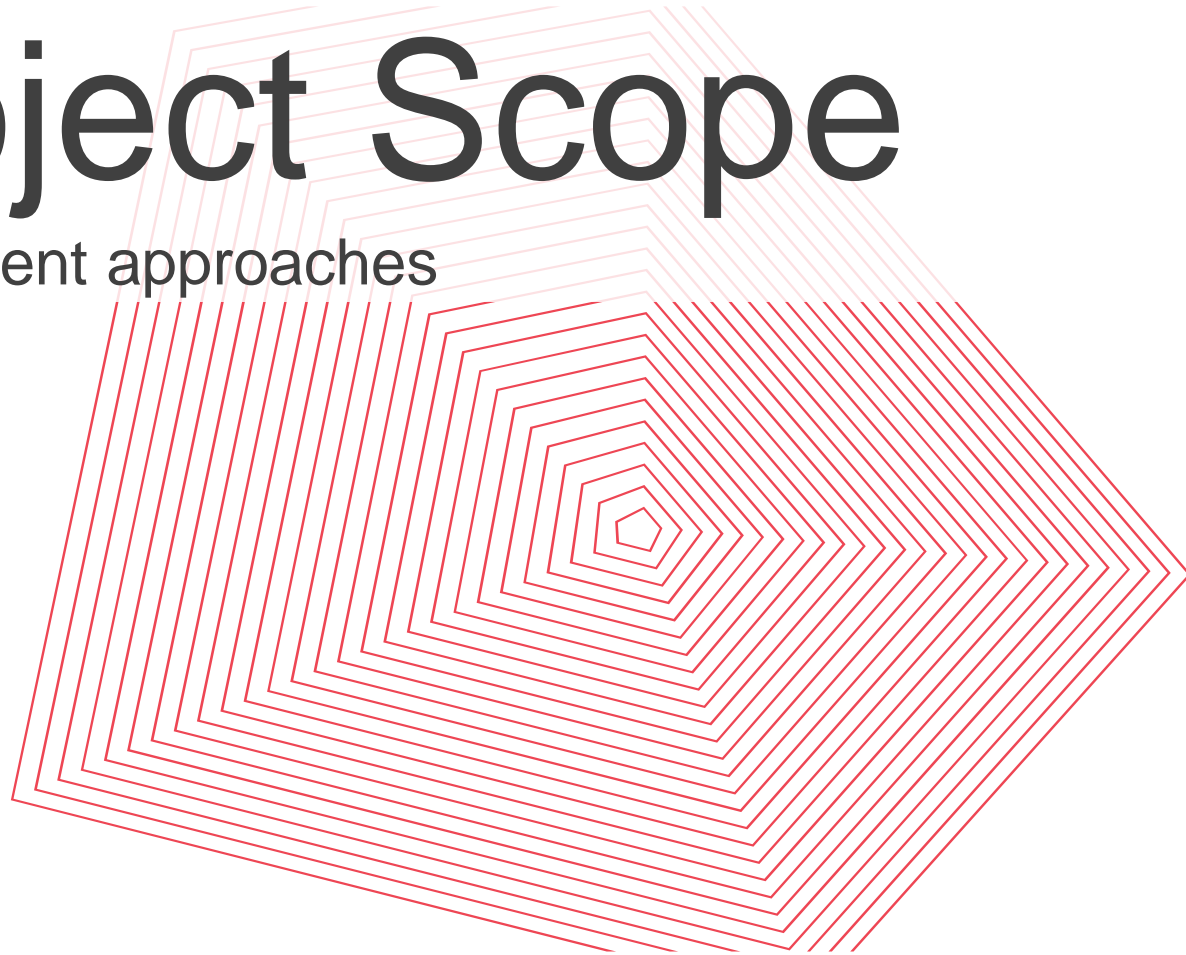
What does this mean for the PM?



- Scope definition is only **deceptively simple**.
- You will need to access **domain-specific knowledge** to be effective.
- You **can't assume** that scope definition will be procedural or routine or even particularly '**easy**'.
- In planning complex projects, it will involve a **high degree of negotiation**, compromise and hard work.
- As PM, scope definition is where you leave your **creative mark** on the project.

Project Scope

Development approaches



Development Approaches

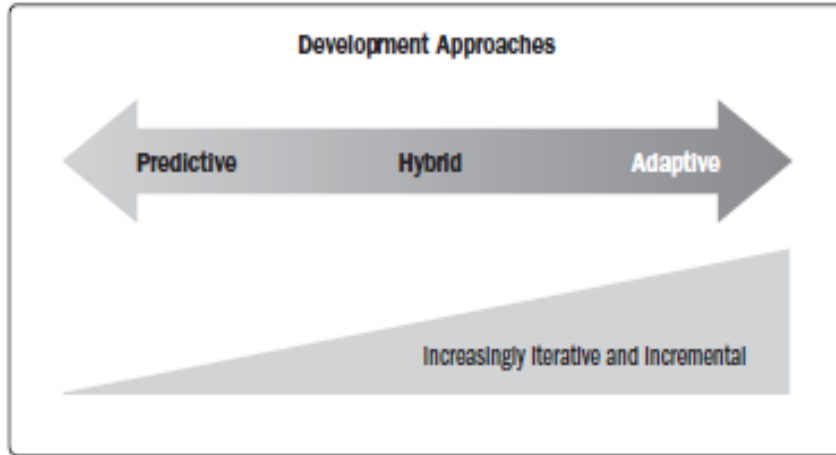


Figure 2-7. Development Approaches

PMBOK Guide (7th Ed), Part 1, Sec. 2.3.3

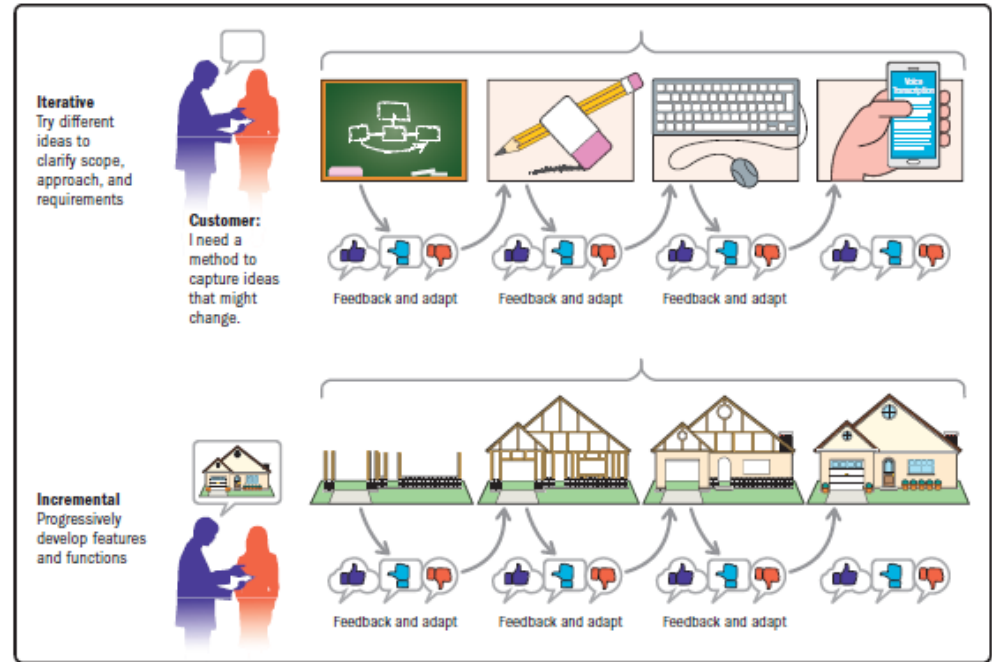
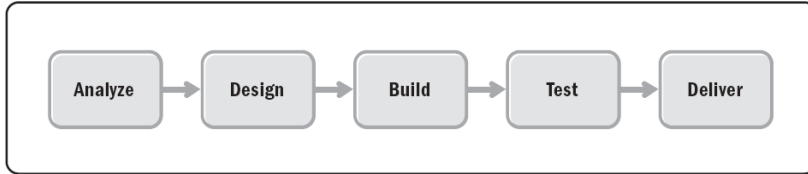


Figure 2-8. Iterative and Incremental Development

PMBOK Guide (7th Ed), Part 1, Sec. 2.3.3

Predictive lifecycle

Concept



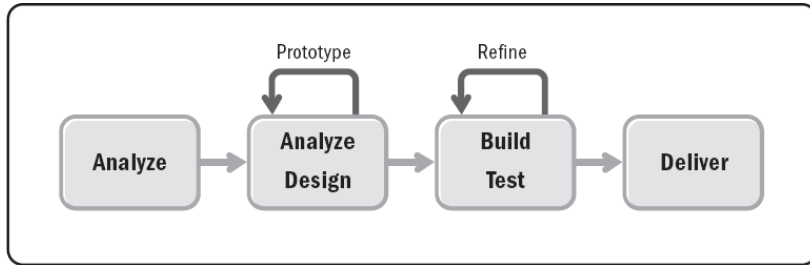
Sydney Light Rail

Characteristics

- Take advantage of **prior knowledge** and **experience**
- Useful for project with **extensive design**, e.g., safety requirements, regulatory constraints
- **Reduced uncertainty** in deliverables
- Should **reduce complexity** in projects and **minimise cost** (but change needs to be carefully controlled, if not can become overwhelming)

Agile Practice Guide (2017) Sec. 3.1.1

Iterative lifecycle

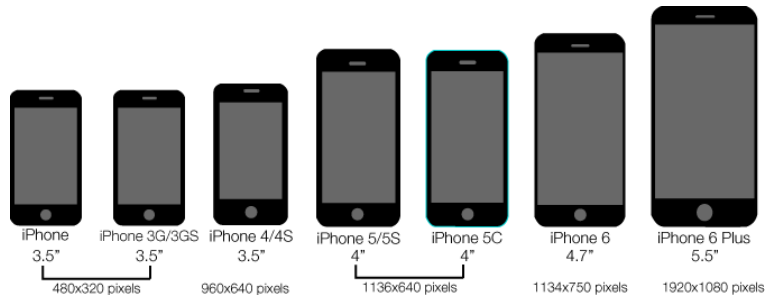
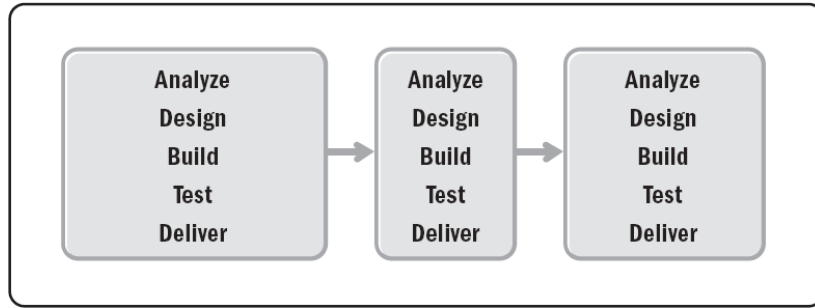


Characteristics

- Implicit in **prototyping**: improve product or result through successive prototypes or proofs of concept.
- Useful for **high complexity**, frequent changes
- Sometimes prototypes are the **only way** to elicit **comprehensive requirements**.
- Projects take longer because they prioritise **learning** rather than speed of delivery

Agile Practice Guide (2017) Sec. 3.1.2

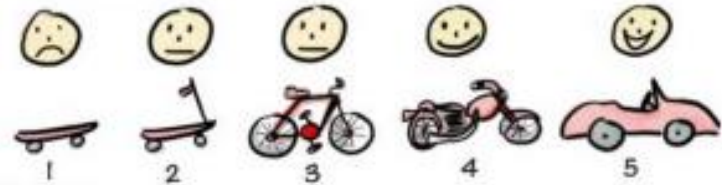
Incremental lifecycle



Agile Practice Guide (2017) Sec. 3.1.3

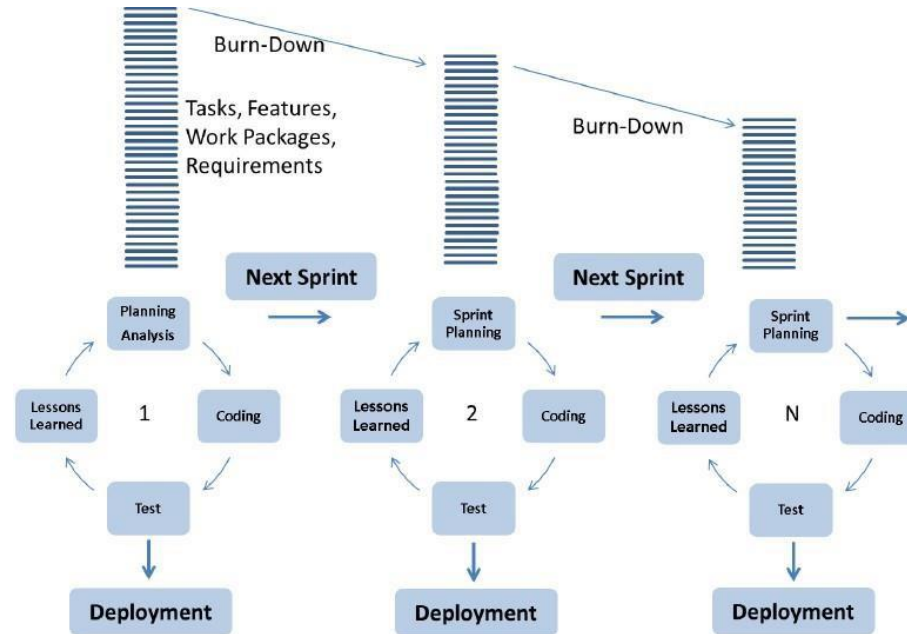
Characteristics

- Delivering **value** to sponsors or customers more often than a single, final product.
- The delivery team may **deviate** from the original plan but can manage this change because they keep on delivering value to customer very soon after.
- Example: Developing a **fully functional website**. There's a new functionality being added to the website for each iteration.



MVP ?

Agile lifecycle



The 100% 'Agile' model **works best** when there are so **few interdependencies** between most of the work packages that they become one long list, or Product Backlog.

[Straçusser, G. \(2015\). Agile project management concepts applied to construction and other non-IT fields. Paper presented at PMI® Global Congress 2015—North America, Orlando, FL. Newtown Square, PA: Project Management Institute.](#)

Development approaches summary

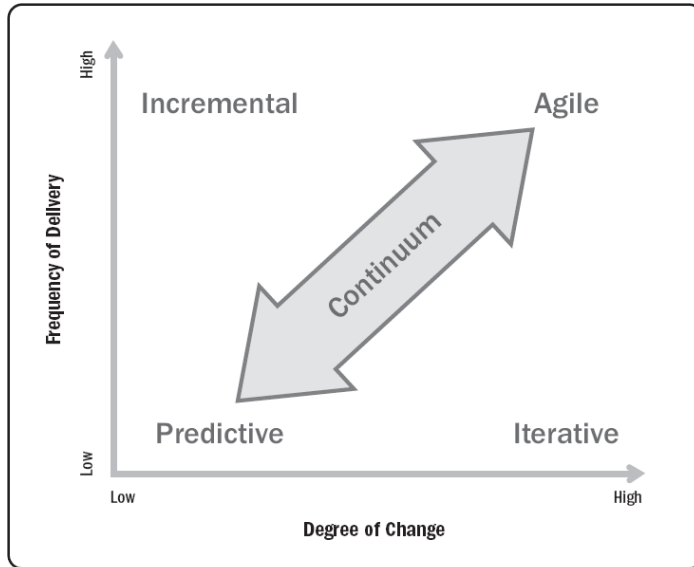


Figure 3-1. The Continuum of Life Cycles

Table 3-1. Characteristics of Four Categories of Life Cycles

Characteristics				
Approach	Requirements	Activities	Delivery	Goal
Predictive	Fixed	Performed once for the entire project	Single delivery	Manage cost
Iterative	Dynamic	Repeated until correct	Single delivery	Correctness of solution
Incremental	Dynamic	Performed once for a given increment	Frequent smaller deliveries	Speed
Agile	Dynamic	Repeated until correct	Frequent small deliveries	Customer value via frequent deliveries and feedback

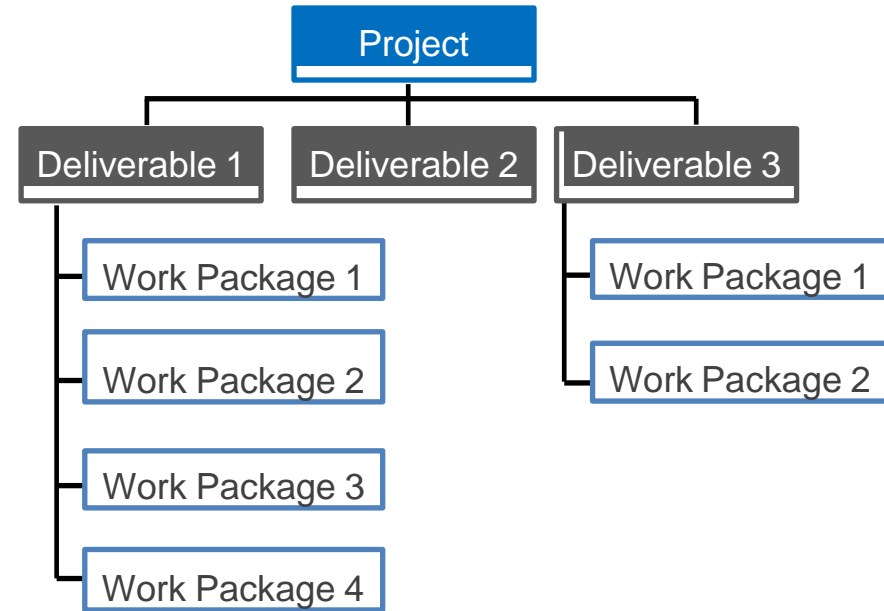
Agile Practice Guide (2017) Sec. 3.1.

Work Breakdown Structure (WBS)

Clear and **complete** description
of the desired **output**

The Work Breakdown Structure

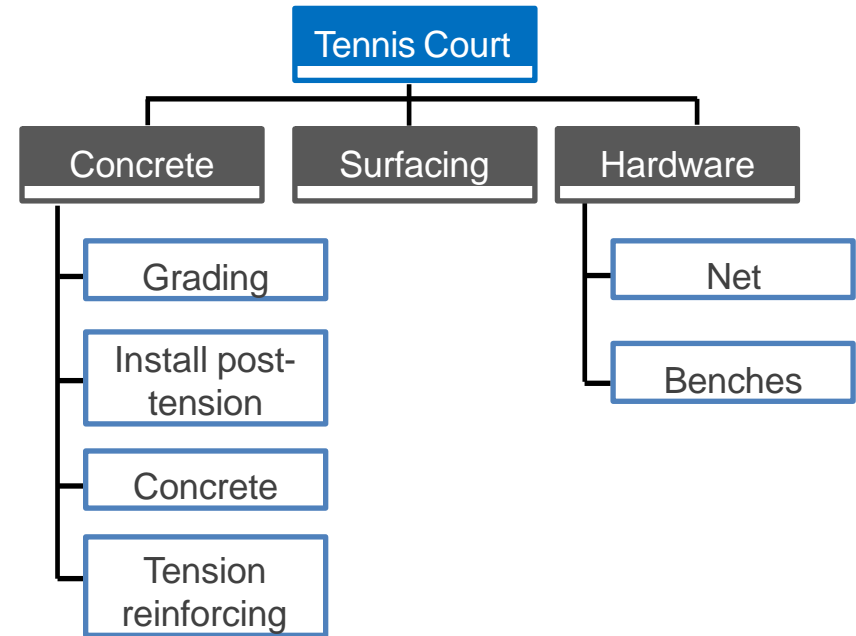
- The WBS is a **hierarchical outline** (map/diagram) that identifies the **total scope of work** to be delivered by the project team accomplish the project objectives and create the required deliverables.
- The WBS subdivides the project work into **smaller**, more manageable **pieces of work**, with descending level of the WBS representing increasingly detailed definition of project work.



***Note: No time component**

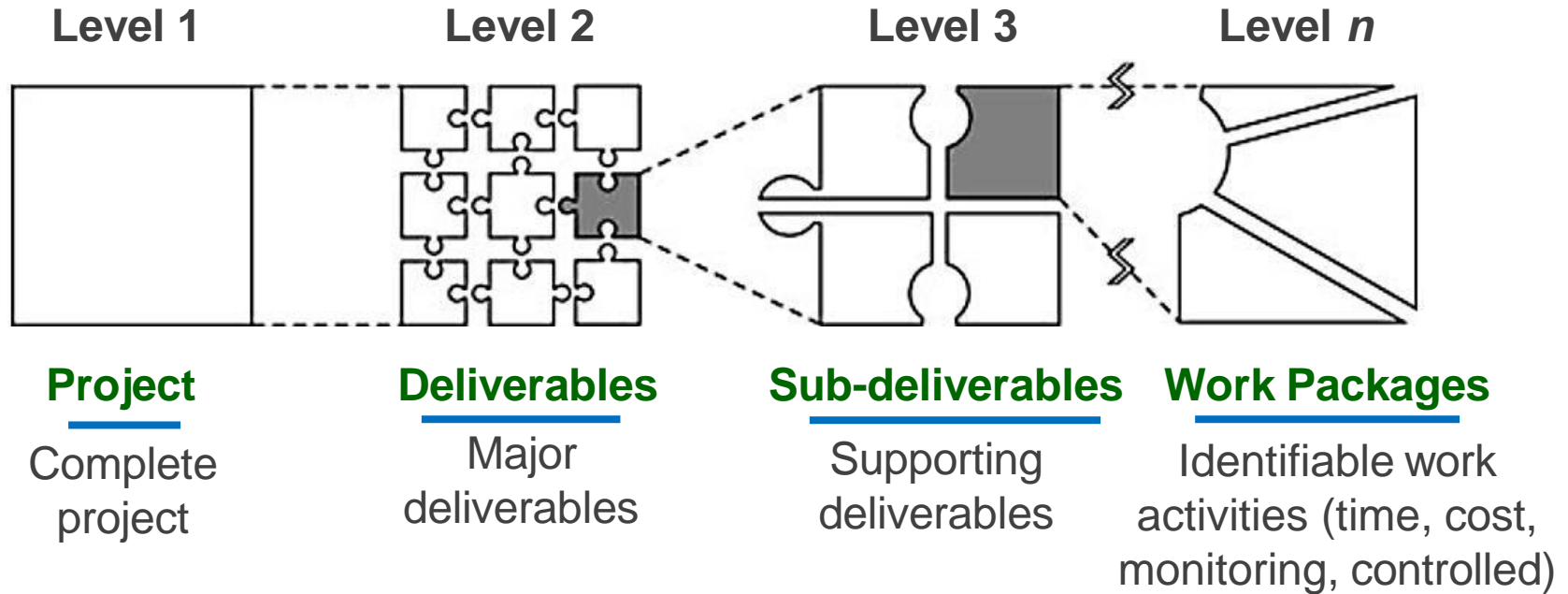
The Work Breakdown Structure

- It represents a clear **description** of the project's **deliverables** and scope – the “**what**” of the project.
- It is **NOT** a description of a **process** or **schedule** that defines how or when the deliverables will be produced.
- Defines the **relationship** of the **final deliverable** (the project) to its **sub-deliverables**, and in turn, their relationship to **work packages**.



***Note:** Does not define “**HOW**”

Building a WBS hierarchy



Advantages of using a WBS



To **improve estimating**



To **better control** the project execution



To more accurately **verify** project **completion**



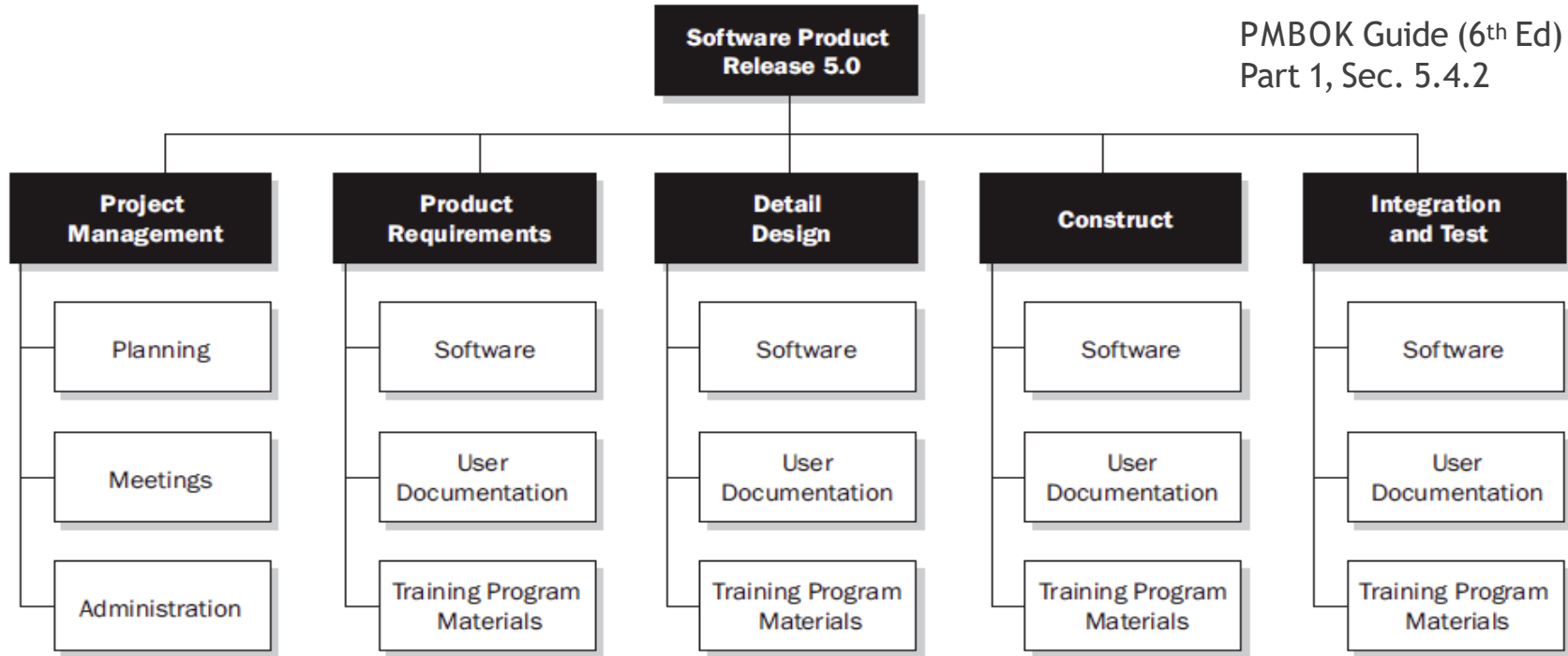
To improve the opportunity for use of **historical information**, which, can aid in both speed and accuracy of future projects.



Is a repeatable process that can be used as **template** for future similar projects.

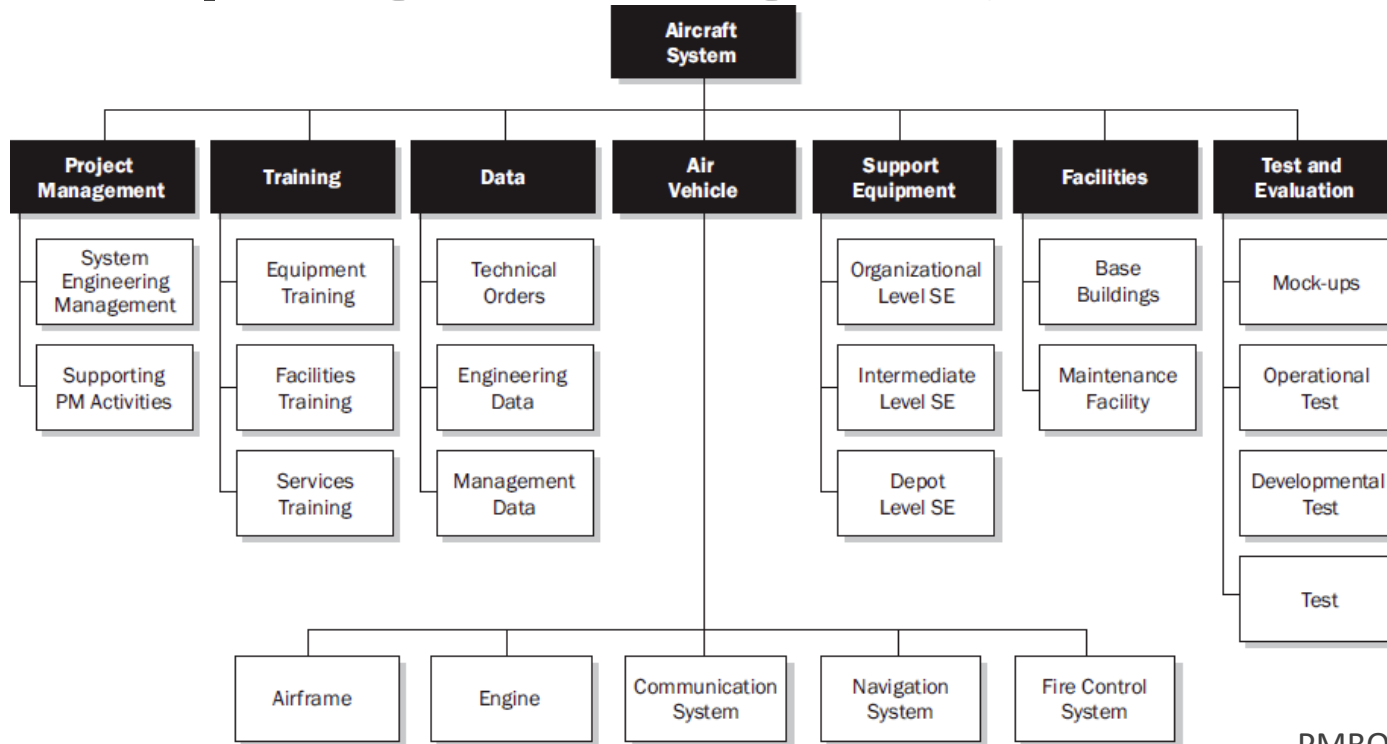
WBS | Software project

PMBOK Guide (6th Ed)
Part 1, Sec. 5.4.2



The WBS is illustrative only. It is not intended to represent the full project scope of any specific project, nor to imply that this is the only way to organize a WBS on this type of project.

WBS | Engineering project



The WBS is illustrative only. It is not intended to represent the full project scope of any specific project, nor to imply that this is the only way to organize a WBS on this type of project.

PMBOK Guide (6th Ed)
Part 1, Sec. 5.4.2

Work Packages

A work package is the **lowest level** of the WBS.

It is **output-oriented** and contains the project details:

1. Defines **work** (**What**)
2. Identifies **duration** to complete a work package (**How long**)
3. Identifies a time-phased **budget** to complete a work package (**Cost**)
4. Identifies **resources** needed to complete a work package (**Who/How much**)
5. Identifies a **person responsible** for units of work (**Who**)
6. Identifies **monitoring points** for measuring success (**Milestones**).



WBS Tips

Tip 1 | Plan **outputs**, not actions

Tip 2 | No work package should be described in more than one sub-deliverable (**mutually exclusive**)

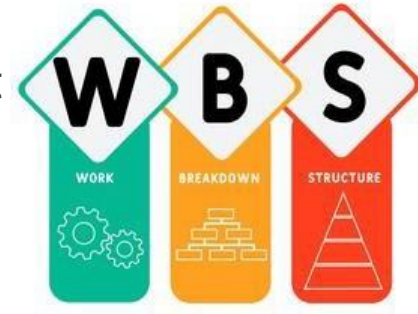
Tip 3 | **100% Rule** = The WBS must capture **all** deliverables of the project

Tip 4 | Level of detail

- Work Packages should be small enough for 1 person to manage
- No activity should be longer than 10 days or a single reporting period


Common WBS Misconceptions


- ✓ A WBS is **NOT** an exhaustive **list of activities**. It is instead a comprehensive classification of **product scope**.
- ✓ A WBS is neither a project plan, a schedule, nor a chronological listing. It specifies **what** will be done, **NOT how or when**.
- ✓ A WBS is **NOT** an **organisational hierarchy**, although it may be used when assigning responsibilities.





Let's recap


What we talked about today?

- What is a Project 

It's constraints and trade-offs
- Project Charter – The **license** to work 

Giving authority to the PM
- Project Stakeholders – The **influencers** and **beneficiaries** of the project 

How to engage and manage them
- Project Scope – **What** will the project deliver, and **not** deliver 

To be clear about what will not be delivered
- Work Breakdown Structure (WBS) – Clear and **complete** description of the desired **output** 

A visual representation of the scope

Thank you

