



# International Masters' Program

# Project Management Module 2

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Fall / Spring



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# Project Management

# Terminologie / Terminology



Rosemary Obi – Spring 2024

# Project Management

## Terminologies

**En Francais**

Projet  
Gestion  
Programme  
Portefeuille  
Activité  
Tâche  
Temps  
Coût  
Qualité  
Risque  
Périmètre  
Plan  
Délai  
Calendrier

Project  
Management  
Program  
Portfolio  
Activity  
Task  
Time  
Cost  
Quality  
Risk  
Scope  
Plan  
Timeline  
Schedule

**In English**

# Project Management

## Terminologies

### En Francais

Parties prenantes  
Cycle de vie  
Livrable  
Budget  
Evènement, Jalon  
Clôture  
Estimation  
Communication  
Structure de répartition  
du travail  
Exigences  
Spécifications

Stakeholders  
Lifecycle  
Deliverable  
Budget  
Milestone  
Close out  
Estimation  
Communication  
Work Breakdown  
Structure WBS  
Requirements  
Specifications

### In English

# Project Management

## Project Integration Management Processes

As per the PMBOK, there are 6 processes in the project integration management knowledge area.

#	Process	Process Group
1	Develop Project Charter	Initiating
2	Develop Project Management Plan	Planning
3	Direct and Manage Project Work	Execution
4	Monitor and Control Project Work	Monitoring and Controlling
5	Perform Integrated Change Control	Monitoring and Controlling
6	Close Project or Phase	Closing



# Project Management

From idea to project (summary)



# Project Management

## Business case

- A Business Case provides justification as to whether an initiative is worth investing in.
- It assesses whether the benefits are greater than the costs and whether the change initiative is viable.



<https://youtu.be/zto61hyngVc?t=43>

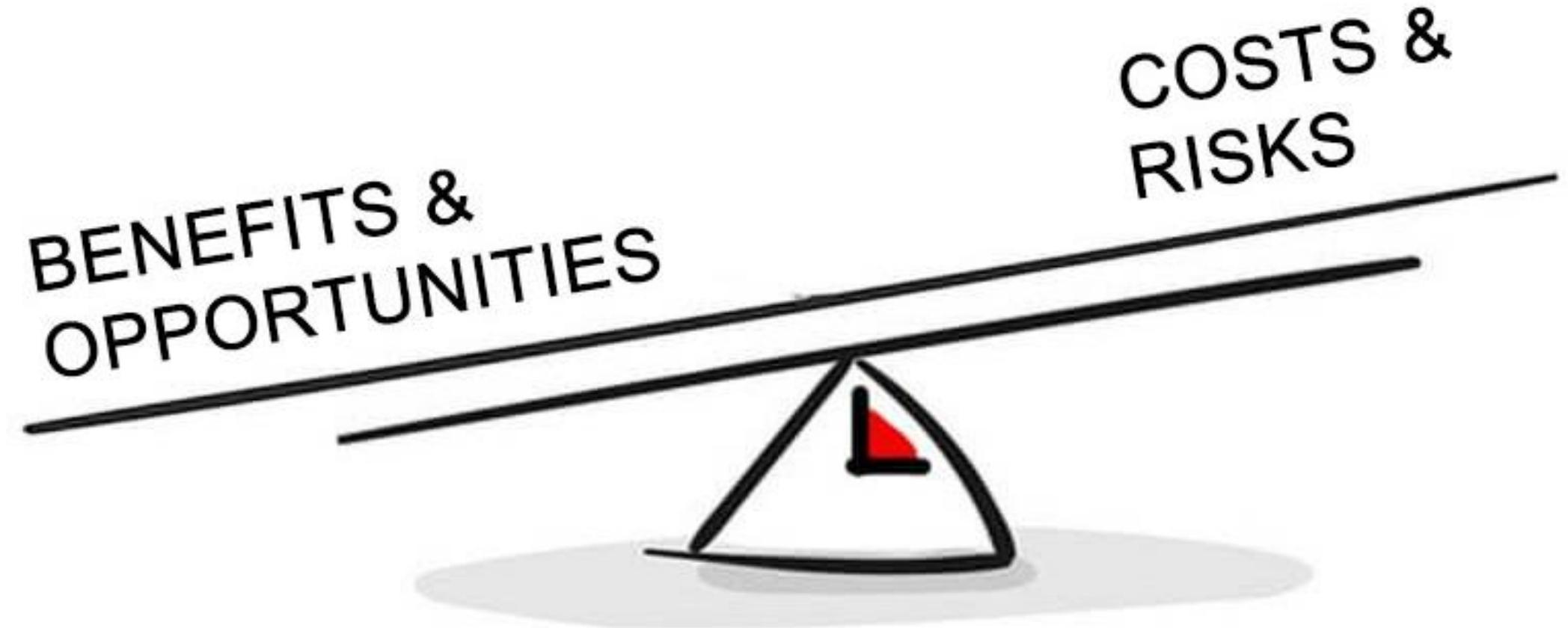
# Project Management

## Business case



# Project Management

## Business case



## BUSINESS CASE

# Project Management

- **Tangible benefits**
  - Revenue increases
  - Cost savings or avoidance
- **Intangible benefits**
  - Customer satisfaction
  - Employee satisfaction
  - Better marketing image
- **Costs of the project**
  - High-level budget estimate
  - Return on Investment ROI



# Project Management

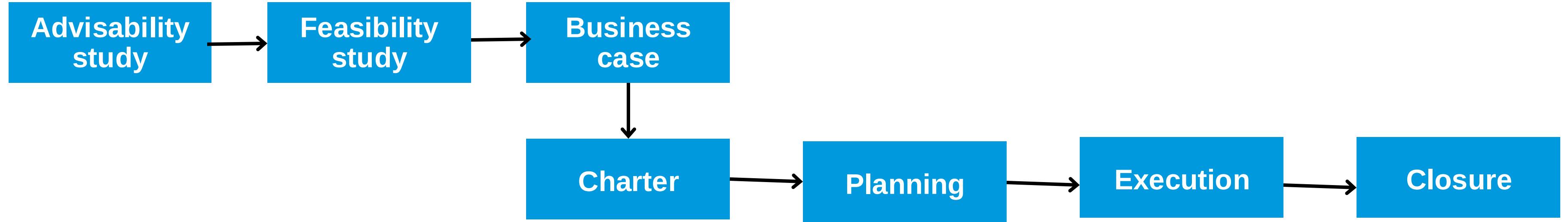
## Project Charter

The Project Charter is a document issued by the proponent or sponsor of the project, which formally authorizes its existence and gives authority to the project manager to allocate resources from the organization to the activities of this project



# Project Management

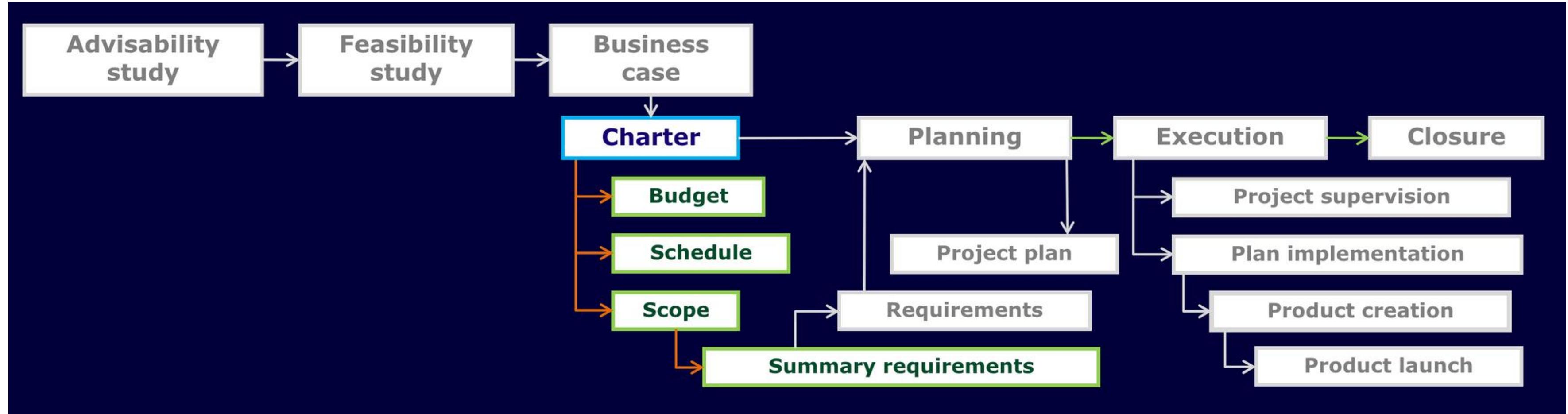
## Project charter (1)



- Reference document, also called...
  - project mandate
  - project definition
  - project initiation document (PID)
  - project overview statement (POS)
  - terms of reference (TOR) of the project

# Project Management

## Project charter (2)



- Reference document particularly describes...
  - the project's scope, budget, and schedule
  - the outcome of the project (summary requirements)
  - the PM's responsibilities and level of authority

# Project Management

## Project charter

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- **The charter :**
  - Establishes the strategic goal of the project
  - List project deliverables at a high level
  - Officially names the Project Manager
  - Authorizes the PM to use the organization's organizational resources to roll out and complete the project
  - It is approved by a Top Manager (sponsor, senior manager, committee ...)
  - It is signed by all persons authorizing the charter
- After signature of the project charter, the PM can start the constitution of the team and planning processes can begin

# Project Management

## Project charter



<https://youtu.be/Db6HzCUGjdM?t=10>

# Project Management

## Project charter (1)

Exemple de charte de projet			
Nom du projet :		Préparé par :	
Date :			
<b>Description</b> <i>[Décrire sommairement le projet, y compris les objectifs stratégiques et opérationnels et la portée globale. Identifier tout autre secteur pertinent non inclus dans le projet.]</i>			
<b>Indicateurs de succès</b> <i>[Définir les indicateurs de succès.]</i>			
<b>Objectifs du projet</b> <i>[Cerner les objectifs clés et des buts SMART : spécifique, mesurable, réalisable, réaliste et limité dans le temps.]</i>			
<b>Produits à livrer</b> <i>[Énumérer les principaux produits à livrer.]</i>			
<b>Calendrier</b> <i>[Établir un calendrier de haut niveau; lien au RASCI.]</i>			

# Project Management

## Project charter (2)

### Budget

*[Estimer le budget requis.]*

### Approche

*[Résumer la méthodologie du projet.]*

### Présomptions et contraintes

*[Identifier toutes les présomptions et contraintes qui pourraient influer sur le projet.]*

### Approbation et signatures

*[Identifier les principaux membres de l'équipe et intervenants ainsi que leur rôle dans le projet; lien au RASCI.]*



# Project Management

## The paradox of Project Management

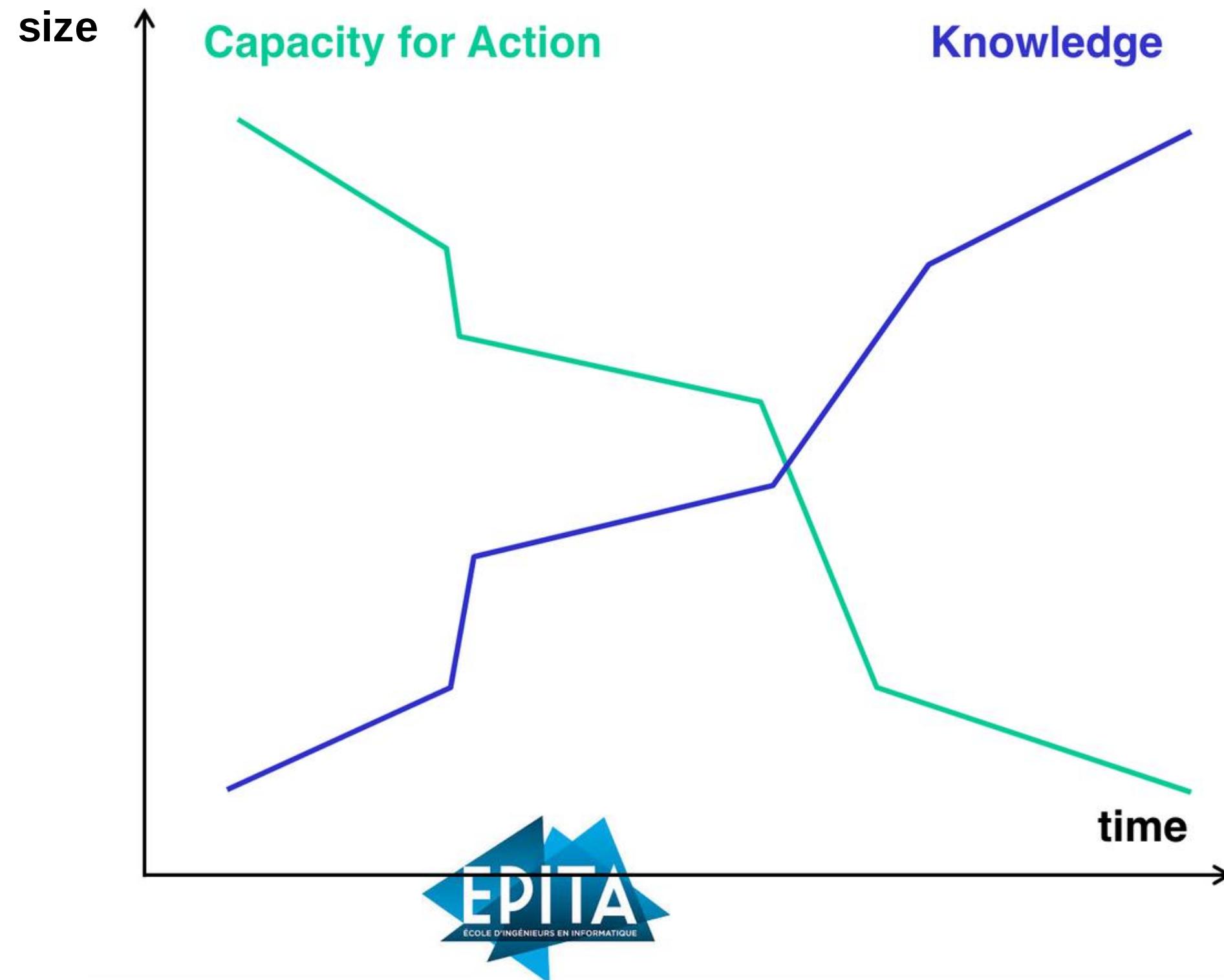
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The **paradox of project management** revolves around the challenge of balancing flexibility and control. In project management, effective results depend on rigid structures and clear plans, yet projects often need to adapt to changing conditions and unexpected issues.

# Project Management

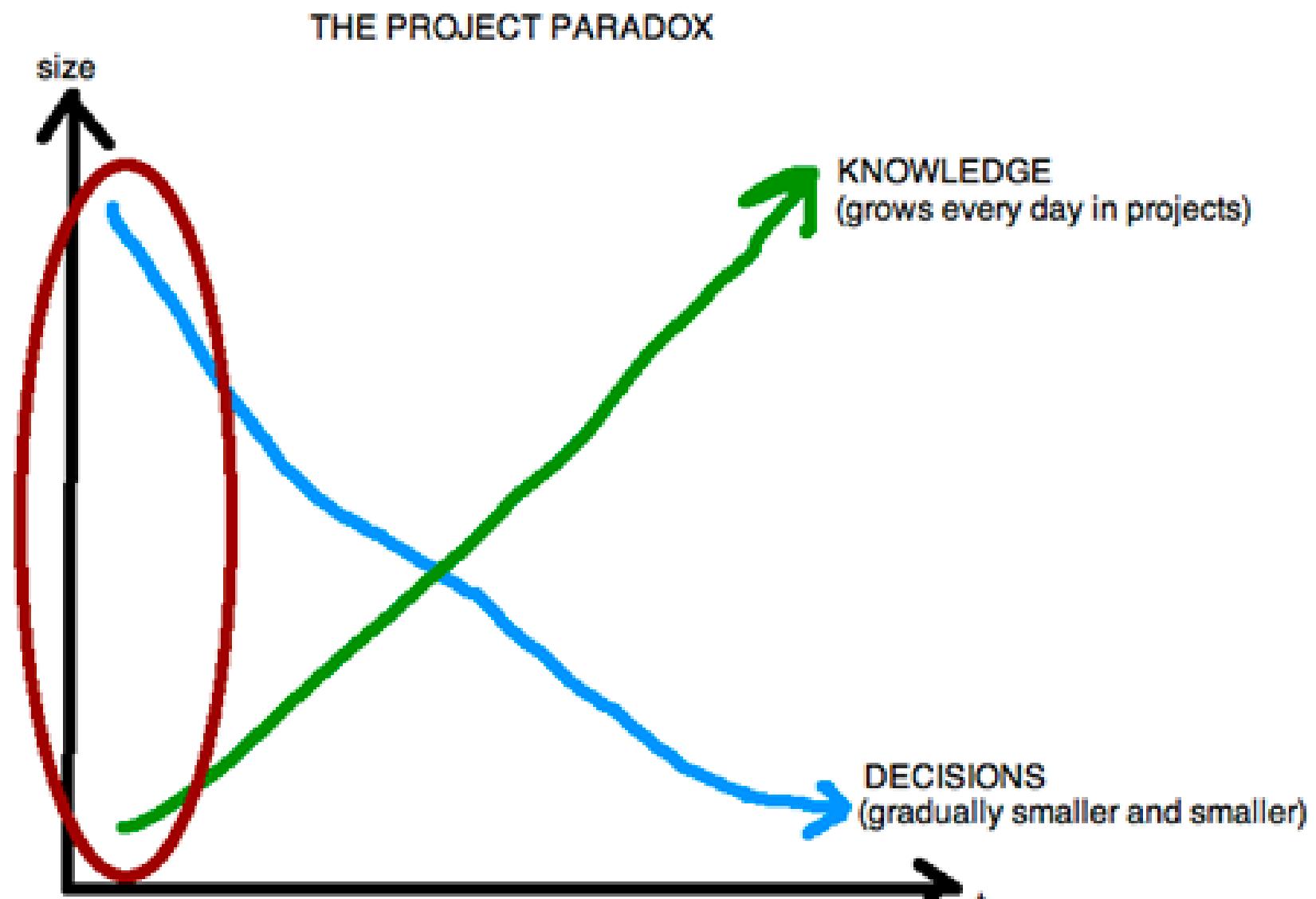
## The paradox of Project Management

- At the beginning of the project, action levers are more important.
- At the end, one knows what should have been done but it is too late...



# Project Management

## The paradox of Project Management



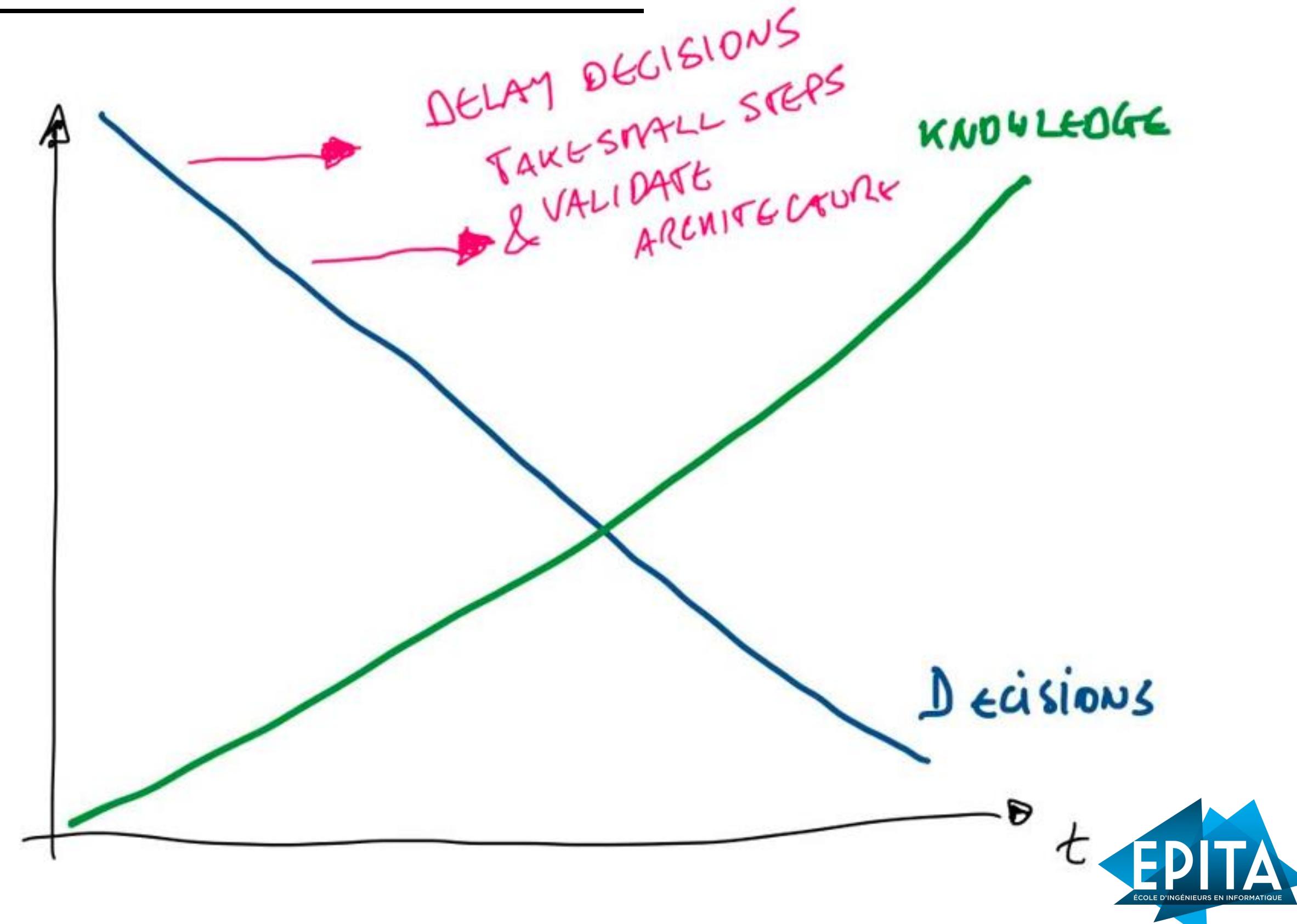
If we don't watch ourselves  
we make the biggest decisions  
when we have the least knowledge.

Might just be the worst possible strategy:  
"Hey, I know - let's make the biggest decisions  
, right now when we know almost nothing!"

# Project Management

## 1st strategy - Delay decisions

- Split decisions,
- spike out ideas,
- take very small architectural steps and
- learn from them.



Courtesy: Beyond Agility

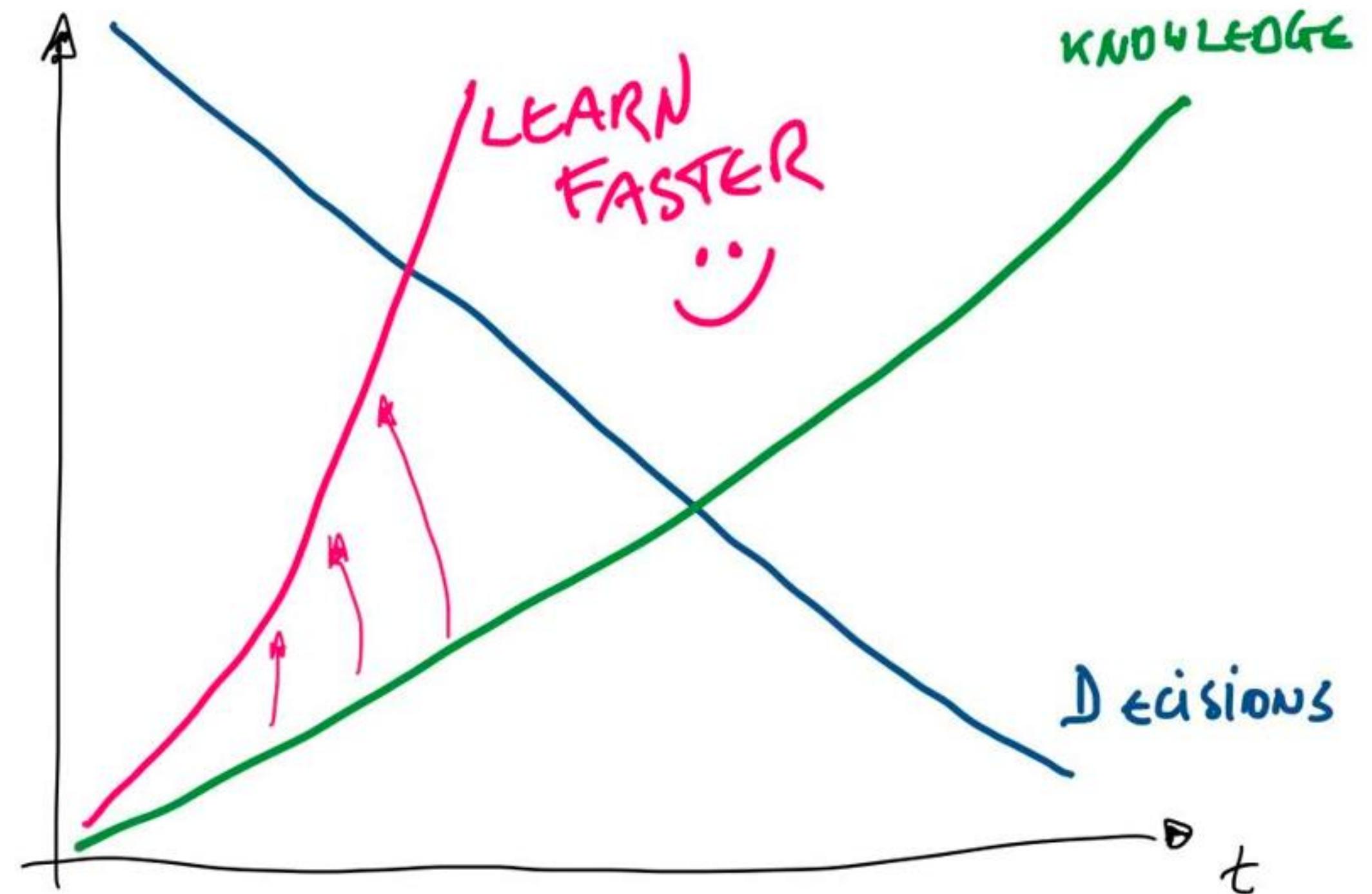
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# Project Management

## 2nd strategy - Learn Faster

- Don't just build up knowledge, but also practice so that you are ready by the time you need to execute.

Courtesy: Beyond Agility



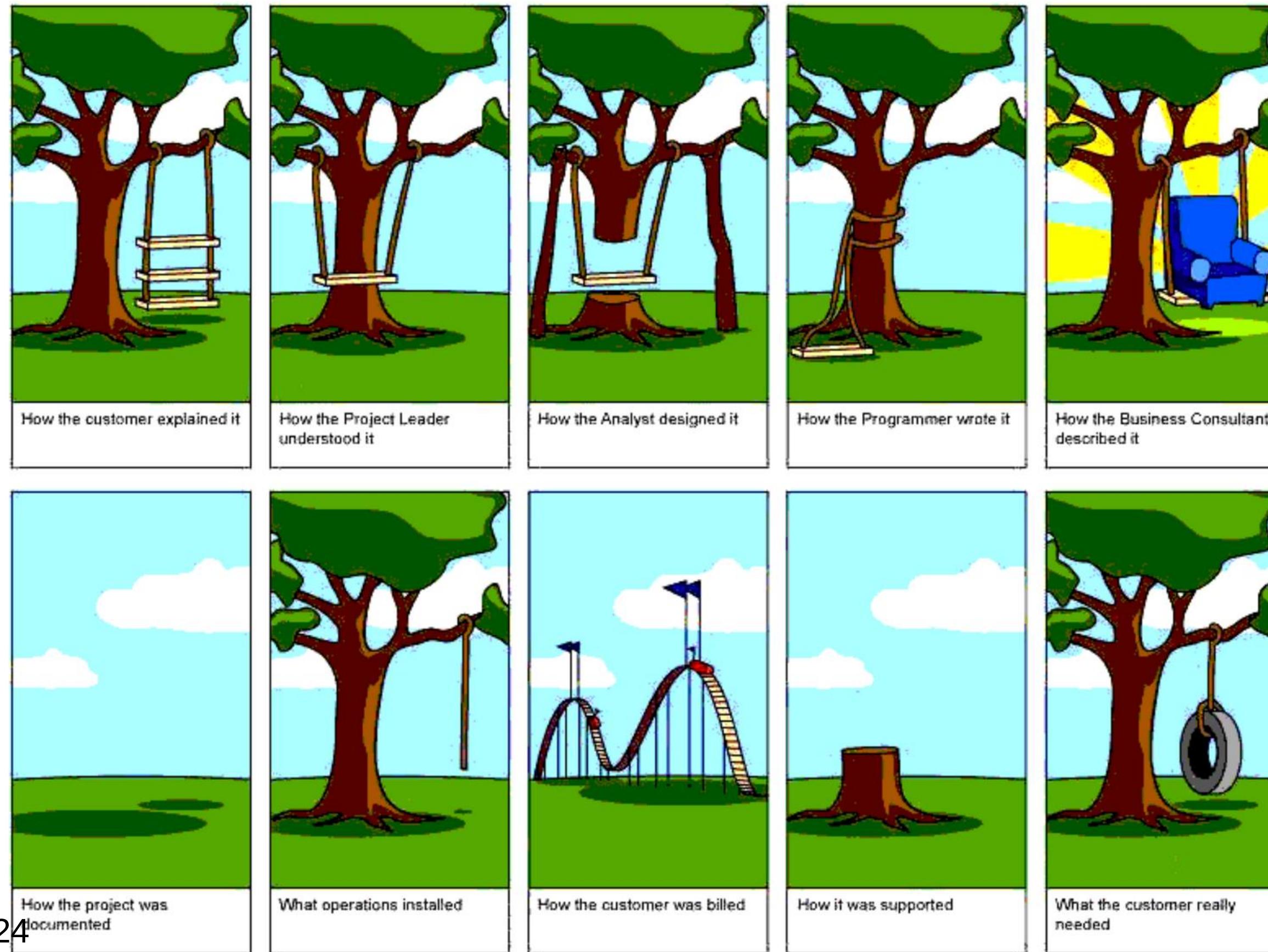
# Project Management

## Scope Management

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- **5.1 Collect requirements**
  - The process of defining and documenting stakeholders' needs to meet the project objective
- **5.2 Define scope**
  - Process of developing a detailed description of the project and product (Project scope statement may include product scope, deliverables, product acceptance criteria, out-of-scope, additional risk, constraints & assumptions)
- **5.3 Create WBS**
  - Process of subdividing project deliverables and project work into smaller, more manageable components.
- **5.4 Verify scope**
  - Process of formalizing acceptance of the completed project deliverables.
- **5.5 Control scope**
  - Process of monitoring the status of the project and product scope and managing changes to the scope baseline

# Project Management



# Project Management

## 5.1 Collect Requirement Techniques (1)

*understanding and documenting what stakeholders expect from a project.*

- **INTERVIEWS:** Directly talk with stakeholders
- **FOCUS GROUPS:** Interactive discussion with qualified Stakeholders and subject matter experts
- **FACILITATED WORKSHOPS:** Focused cross-functional stakeholders.
  - *JAD Joint application design,*
  - *QFD Quality function development*
  - *Helps determine critical characteristics of new product development*
  - *Start by collecting customer needs - VOC: Voice of the Customers*



# Project Management

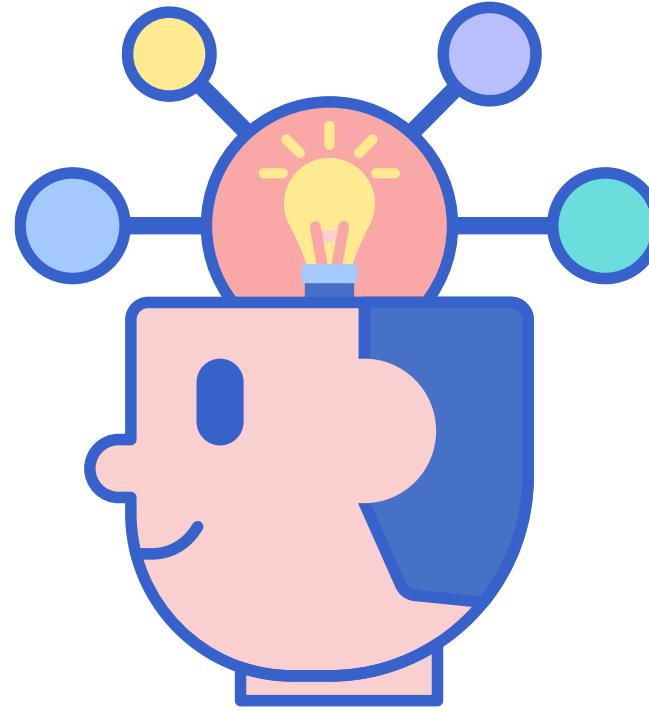
## Collect Requirement Techniques (2)

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- GROUP CREATIVITY TECHNIQUES:
  - Brainstorming,
  - Nominal group technique: enhance brainstorming with voting and ranking
  - Delphi Technique: some expert answer questionnaire and give anonymity feedback
  - Idea/mind mapping,
  - Affinity Diagram: sort ideas into groups
- GROUP DECISION MAKING TECHNIQUES:
  - Unanimity,
  - Majority (>50%),
  - Plurality,
  - Dictatorship

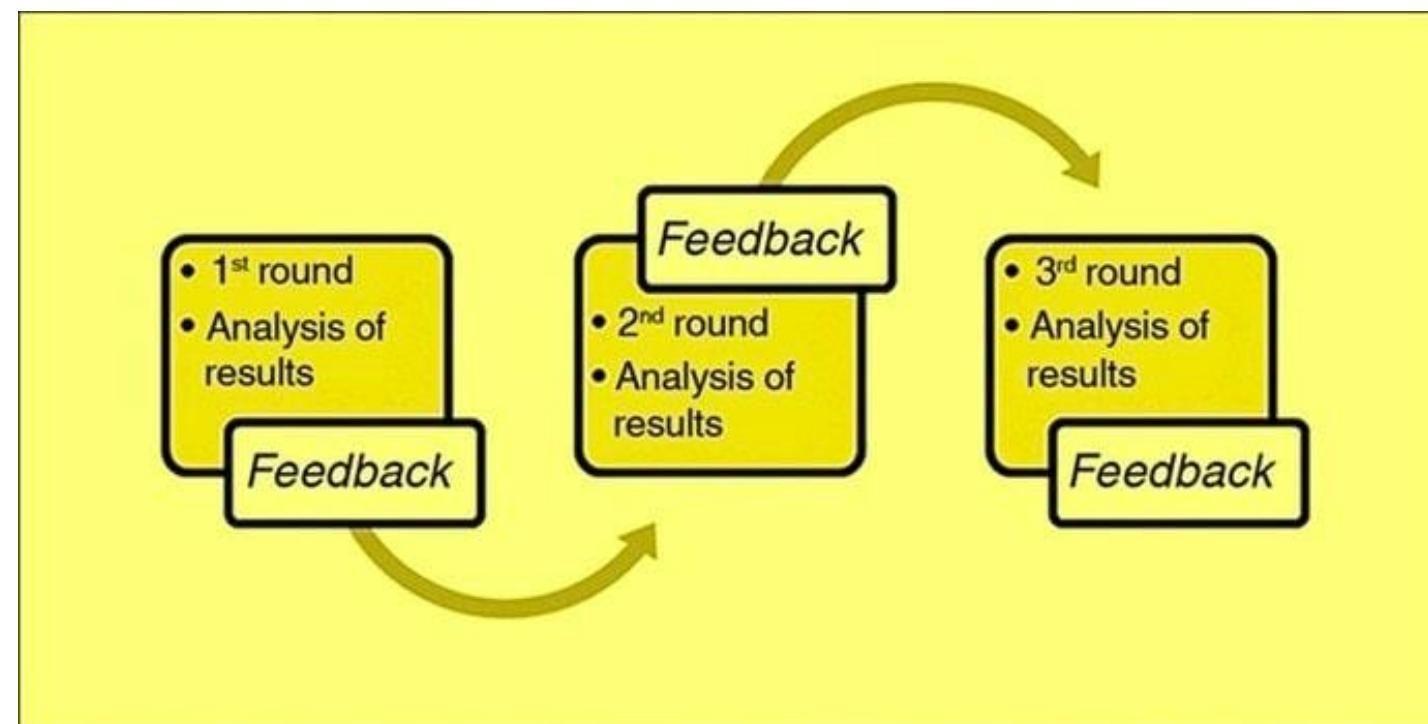
# Project Management

## Collect Requirement Techniques



### Mind mapping

Come up with three to five main ideas, then evenly space them in a circular formation around the project at hand.



### Expert A



### Expert B



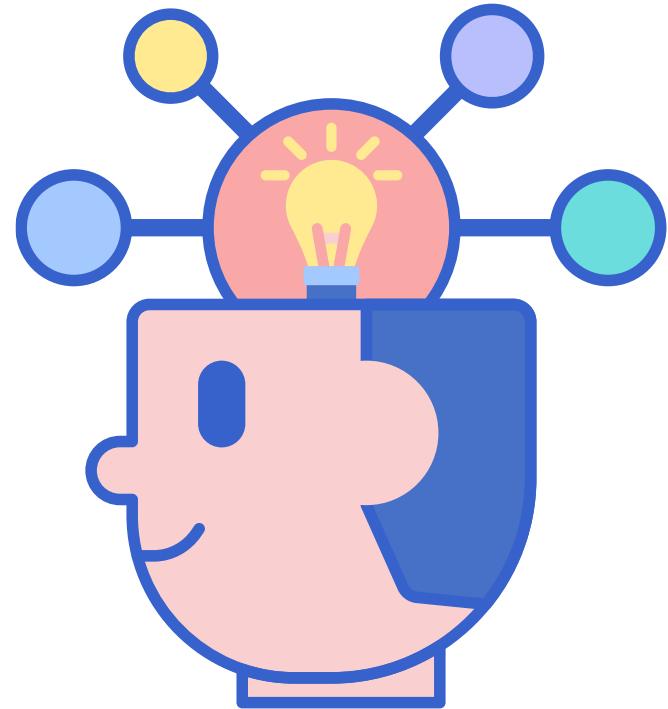
### Brainstorming

focuses on creativity and help the team discover solutions.



# Project Management

## Collect Requirement Techniques



### Mind mapping

Come up with three to five main ideas, then evenly space them in a circular formation around the project at hand.

*Mind mapping is a powerful visual tool that helps project managers and stakeholders systematically organize, visualize, and break down requirements for a project. It uses a graphical representation to capture the flow of ideas, tasks, and dependencies in a project.*



# Project Management

## Collect Requirement Techniques

**ANALYSIS:** *Mind mapping analysis is the process of using a mind map to analyze information and ideas*

**OBJECTIVES:** *The objectives of mind mapping is to help organize and visualise information in a way that makes it easier to understand and analyze*

**STRATEGY:** *A mind mapping strategy is a plan for using mind mapping to achieve a specific goal or objective.*

**ACTION:** *Mind mapping action refers to the process of using a mind map to take action towards achieving a specific goal or objective.*

**REVISION:** *Mind mapping revision refers to the process of revising and updating a mind map to reflect new information or changes in understanding.*

**SOLUTIONS:** *Mind mapping solution refers to the process of using a mind map to identify and evaluate potential solutions to a problem.*



# Project Management

## Collect Requirement Techniques

### *Tools for Mind Mapping*

*There are several software tools available for creating mind maps, some of which are particularly useful for project management:*

- MindMeister
- XMind
- Lucidchart
- Miro
- Coggle
- Microsoft Visio

*These tools allow teams to collaborate in real-time, share mind maps with stakeholders, and easily convert them into documentation for project planning.*



# Project Management

## Collect Requirement Techniques



*Mind Mapping*  
*Watch Here*

<https://youtu.be/-5byedfCcHo?t=193>

# Project Management

## Collect Requirement Techniques

### Brainstorming

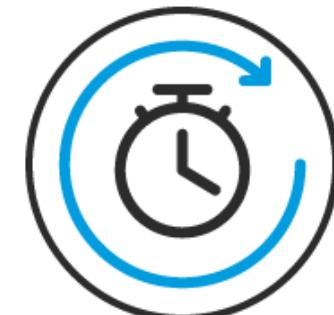
*Brainstorming is a creative group activity designed to generate a large number of ideas and solutions in a short amount of time. It's an essential technique in project management for collecting requirements because it encourages open communication, promotes collaboration, and helps uncover stakeholders' needs and expectations.*



# Project Management

## Collect Requirement Techniques

### Brainstorming



Set a time limit



Target a problem/goal



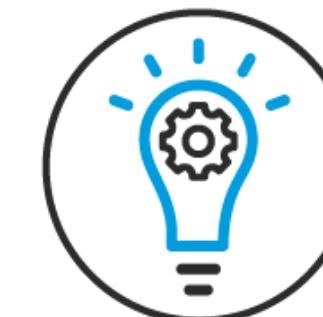
No judgment or criticism



Encourage all ideas



Aim for quantity



Build on ideas



Stay visual



Allow one conversation at a time

Interaction Design Foundation  
[interaction-design.org](http://interaction-design.org)



# Project Management

## Collect Requirement Techniques

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### *Brainstorming Techniques for Collecting Requirements*

#### **Classic Brainstorming**

Participants are encouraged to share their thoughts freely without criticism.

#### **Brainwriting**

Participants write down their ideas silently on paper or in a shared document. After a few minutes, the sheets are passed to the next person, who builds on the previous ideas.

#### **SWOT Analysis Brainstorming**

Focus on using strengths to seize opportunities and mitigate weaknesses and threats.

#### **Round-Robin Brainstorming**

Participants take turns sharing their ideas one by one. Continues till they run out of ideas or time runs out.

#### **SCAMPER Technique**

SCAMPER stands for **Substitute, Combine, Adapt, Modify, Put to another use, Eliminate, and Reverse**. Useful for generating innovative solutions and identifying hidden requirements.

#### **Affinity Diagram Brainstorming**

Participants brainstorm ideas and write them on sticky notes. The notes are then grouped by related topics to create an affinity diagram.

#### **Brainstorming with the 5 Whys Technique**

Start with a broad question related to the project. For every answer given, ask “**Why?**” up to five times to drill down to the root cause or underlying requirement.



# Project Management

## Collect Requirement Techniques

### Tools for Brainstorming

**Digital Whiteboards:** Miro, MURAL, Lucidchart



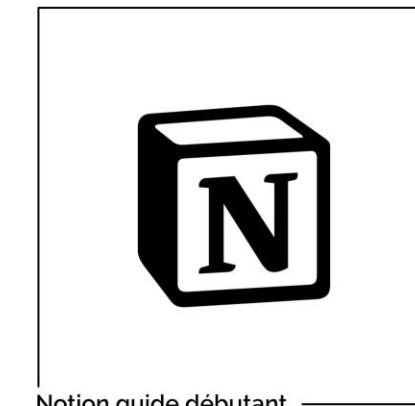
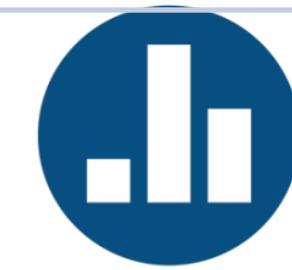
**Mind Mapping Tools:** MindMeister, XMind



**Idea Management:** Trello, Notion, Microsoft Planner



**Voting Tools:** Mentimeter, Poll Everywhere, Slido



# Project Management

## Collect Requirement Techniques



*Brainstorming Techniques for Collecting Requirements*

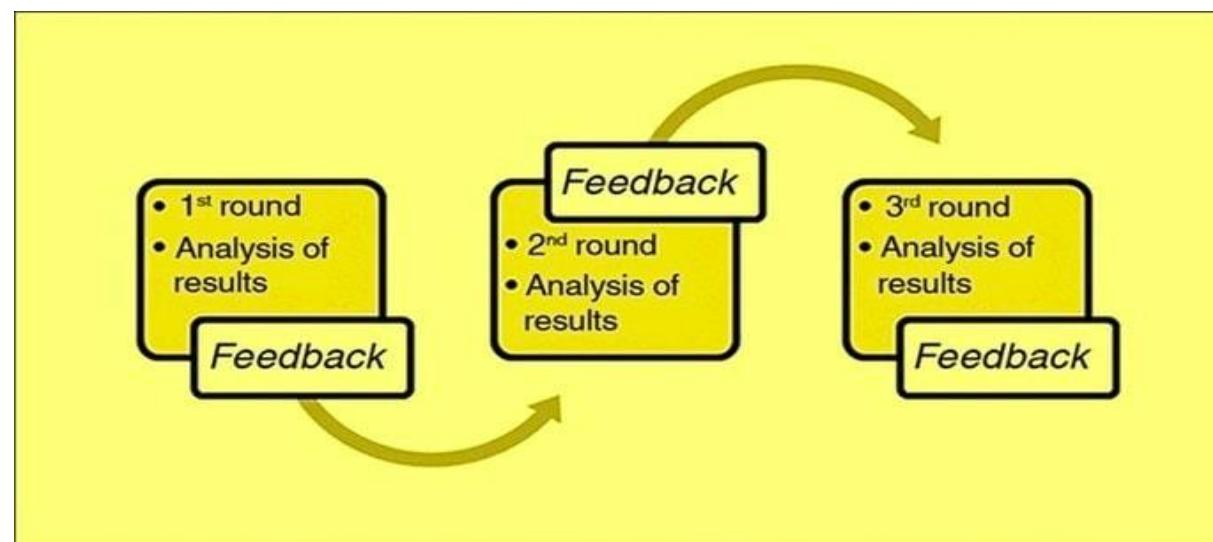
*Watch here*

<https://youtu.be/HRWt1rBG10o?t=39>

# Project Management

## Delphi Technique

*Used to make complex decisions based on  
a consensus reached from  
expert opinions.*



**Expert A**



**Expert B**

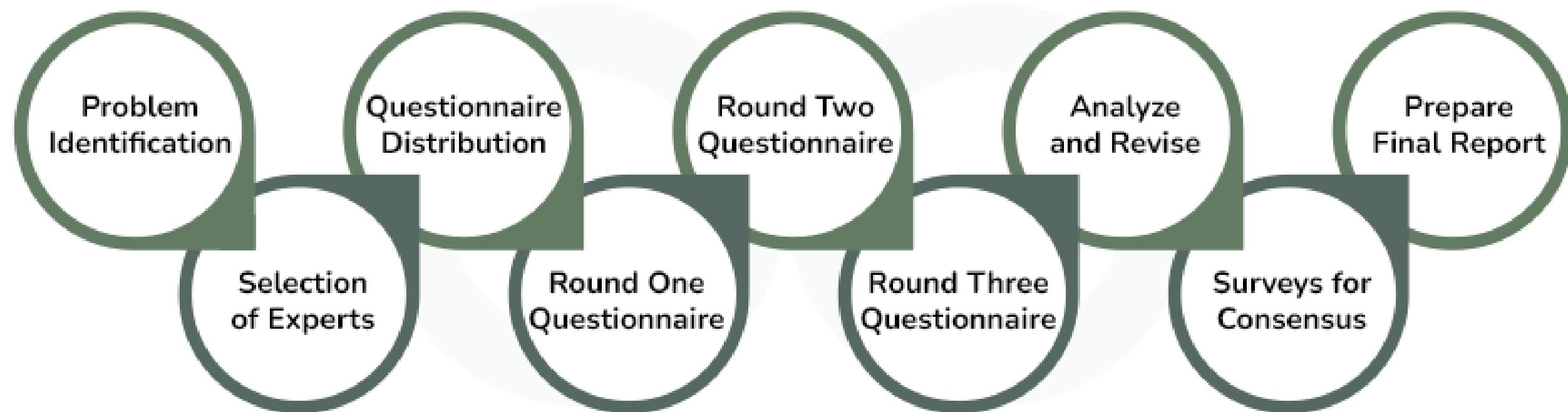


- The Delphi Technique is a multistep method used to estimate future demand for a product or service
- Involves a special group of experts in Risk/Cost/Schedule forecasting exchange views
- Each individually submits estimates and assumptions to an analyst who reviews all the data received and issues a summary report.

# Project Management

## Delphi Technique

### Delphi Method Process



What is the Delphi Method?



# Project Management

## Delphi Technique

### COMPONENTS OF DELPHI TECHNIQUE



1. PANEL OF EXPERTS



2. FACILITATOR



3. QUESTIONNAIRES



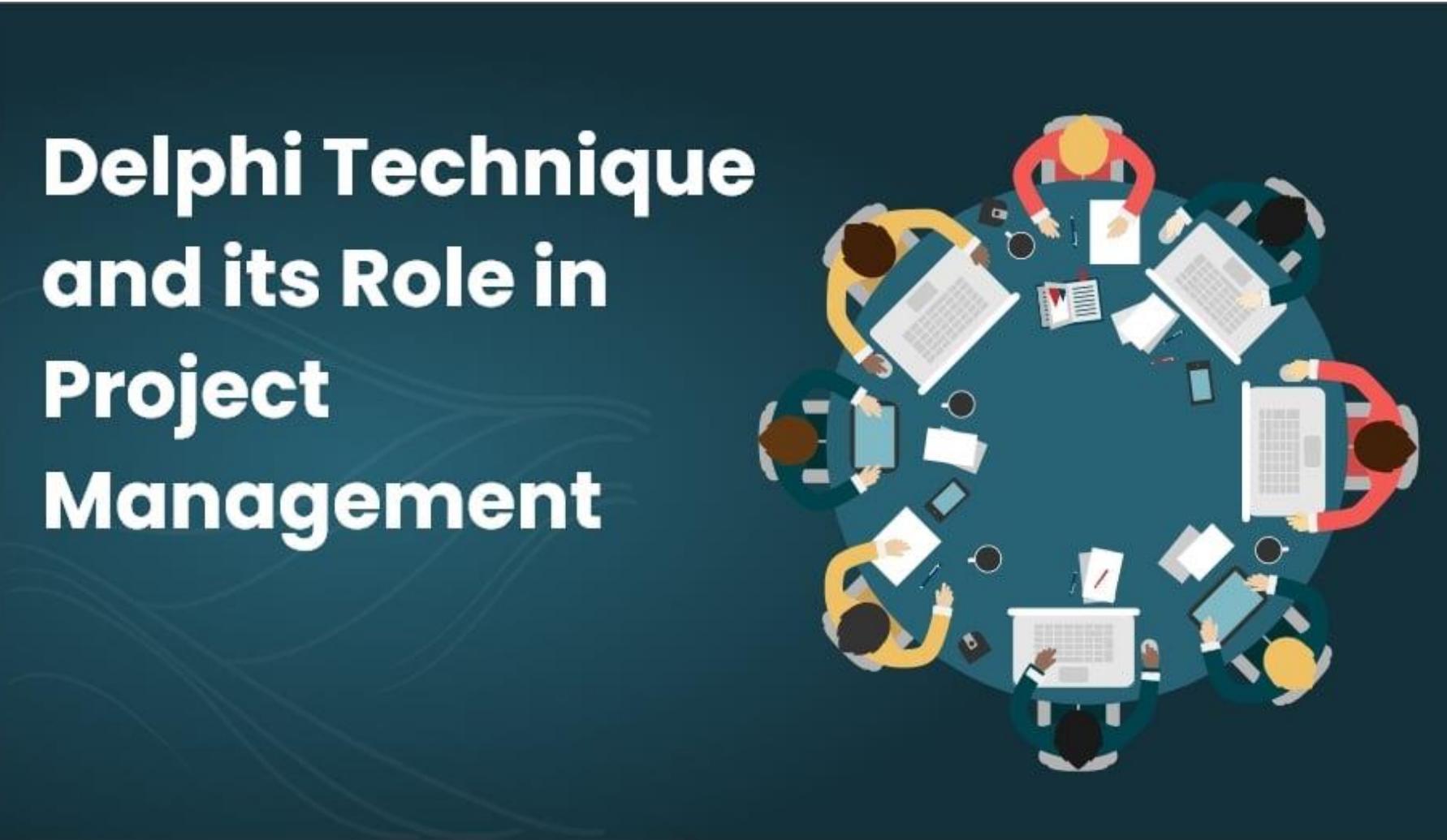
4. ANONYMITY

@DEEPROJECTMANAGER



# Project Management

## Collection Techniques



**Delphi Technique  
and its Role in  
Project  
Management**

Delphi Technique

Watch here

<https://youtu.be/4oYwefvXjbU?t=4>



# Project Management

## Comparison

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### *Tools for Conducting the Delphi Method*

*Several tools can streamline the Delphi process, especially when conducting it virtually:*

**SurveyMonkey:** For creating and managing surveys.

**Google Forms:** For simple, collaborative surveys and data collection.

**Qualtrics:** A robust platform for advanced survey design and analysis.

**Miro:** For visually summarizing feedback in collaborative sessions.



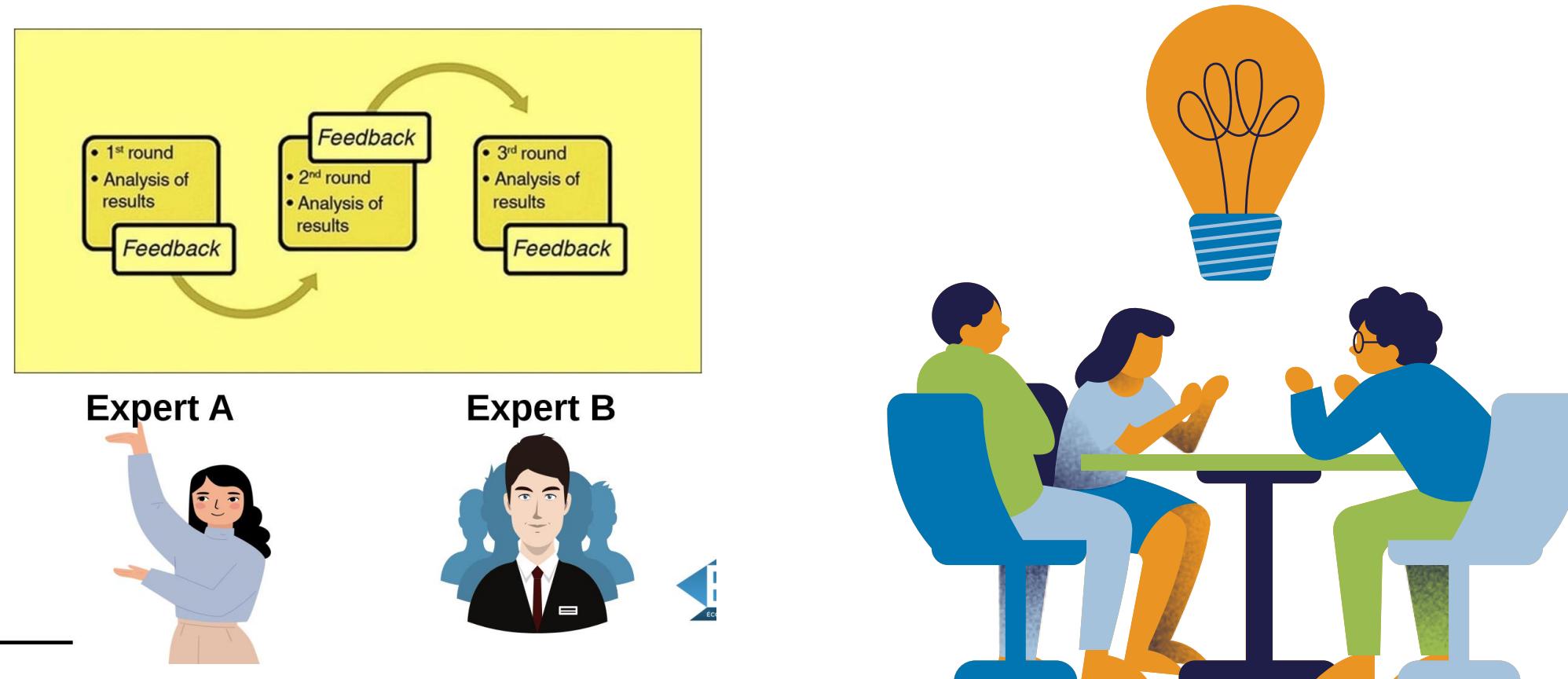
Google Forms



# Project Management

## Comparison

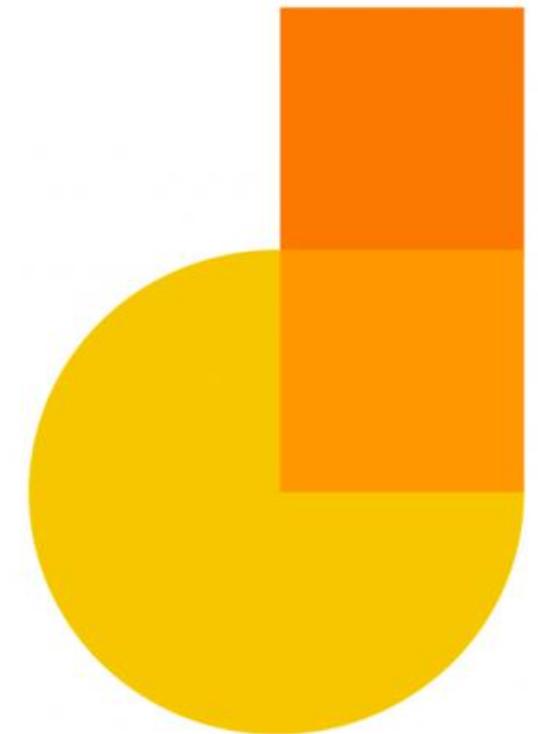
The Delphi Method emphasizes individual responses and expert group consensus while Brainstorming fosters collective creativity and idea generation.



# Project Management

## One example with a tool

- **Jamboard**



Google Workspace  
for Education

## JAMBOARD

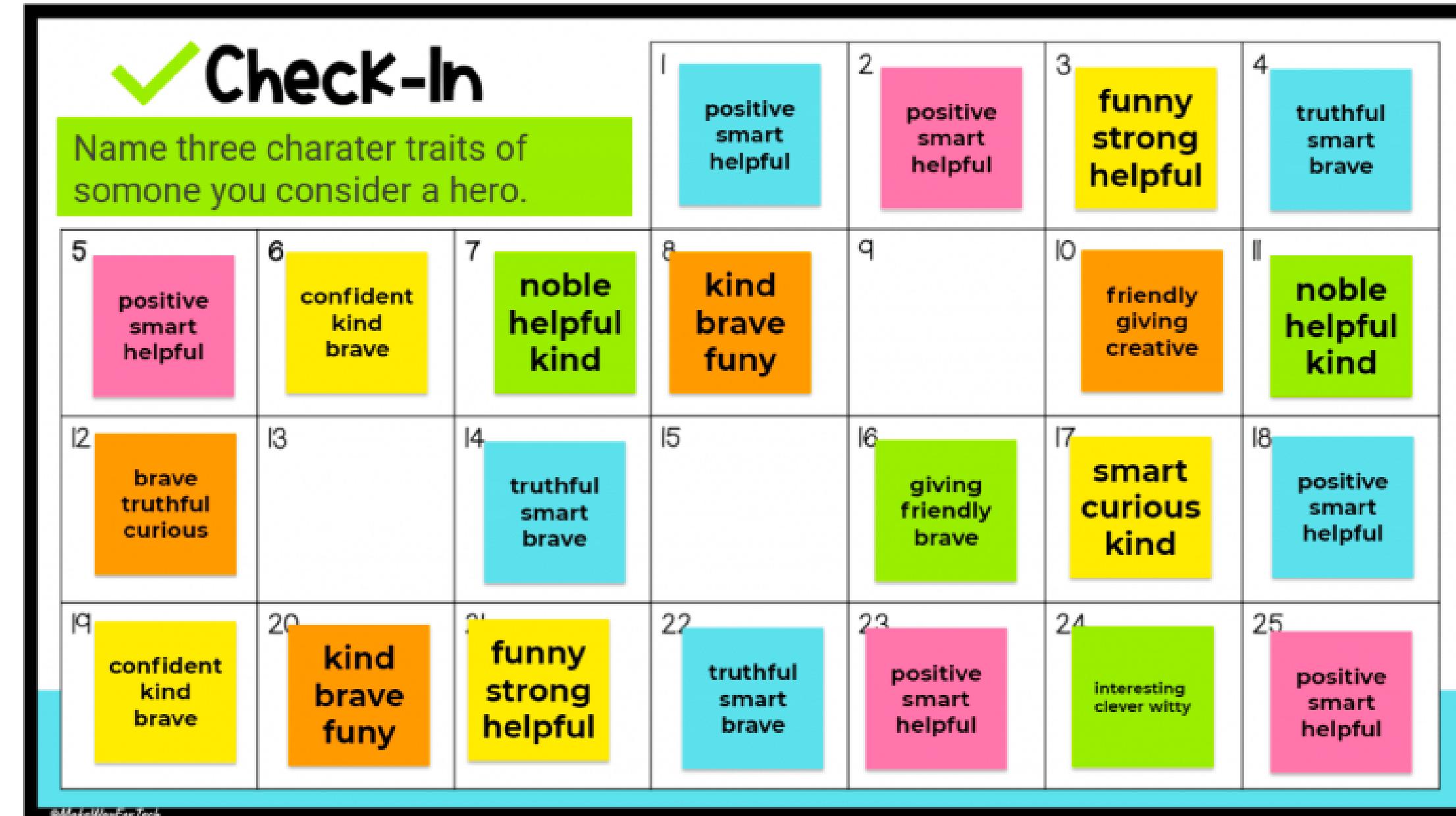
- create and share collaborative whiteboards
- use ink, post-its, text and images to share ideas



# Project Management

You can combine photos , graphs with text and post it notes

- Jamboard



# Project Management

## Goal and Objective: Wooclap



 [Copy participation link](#)



1 Go to [wooclap.com](https://wooclap.com)

2 Enter the event code in the top banner

Event code  
**YAFICE**



1 Send **@YAFICE** to **06 44 60 96 62**

2 You can participate

# Project Management

- A goal is a general statement of intent
  - I want to lose weight
- An objective is the quantifiable achievement of intent
  - I want to lose 3 kilos in two months.
    - By eating right,
    - Going to the gym daily etc

# Project Management

## Road Trip Analogy

**Goal:** The **destination** you want to reach (e.g., driving from New York to Los Angeles).

**Objectives:** The specific **stops or milestones** along the way that help you get there (e.g., refueling at certain gas stations, stopping for meals, or staying overnight in specific cities).

*The goal is your final destination, while the objectives are the actionable steps needed to reach that destination efficiently.*



# Project Management

## 5 Course Meal Analogy

**Goal:** Serving a delicious five-course meal to your guests.

**Objectives:** Preparing each individual dish (appetizer, soup, salad, main course, and dessert) on time, ensuring they are served hot and fresh.

*The goal is to have a successful dinner party, while the objectives are the detailed actions taken to prepare each course correctly.*



# Project Management

## The objective of project management

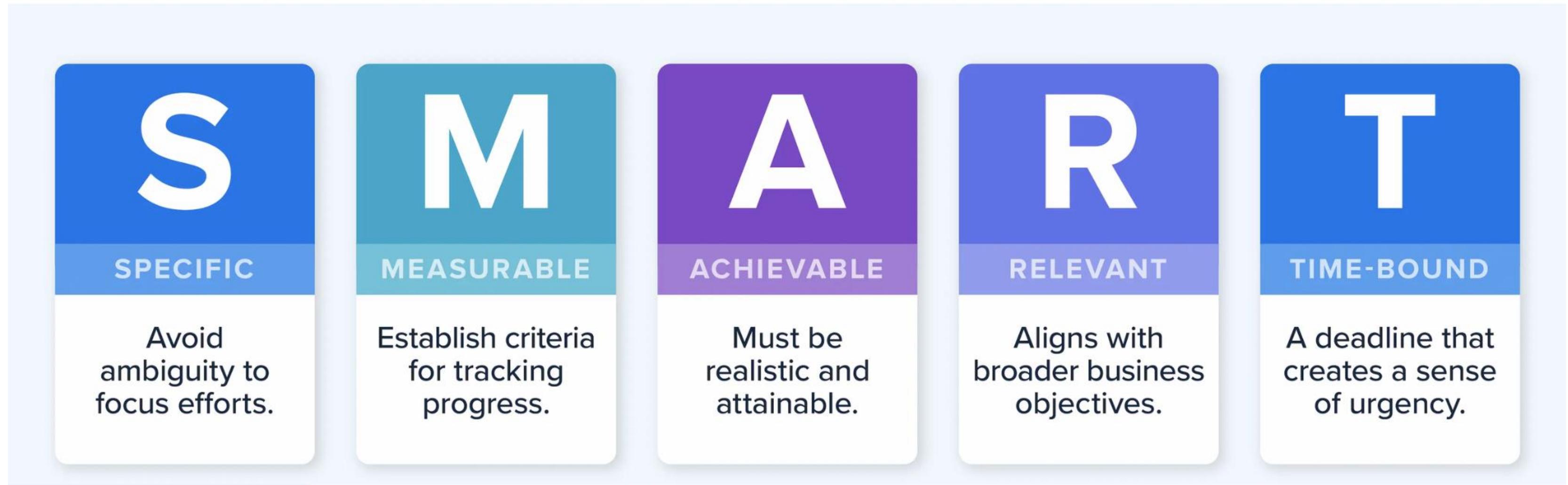
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- Output of the Collect Requirements process
- Helps make sure the requirements clear and unambiguous.
- How will we know if the work we do will acceptably meet this requirement?
- Rule of thumb
  - *Specific (Unambiguous)*
  - *Measurable (How will we know we have finished?)*
  - *Achievable (Can we do it?)*
  - *Relevant (Is it the right thing to do?)*
  - *Timed (When will we do it?)*



# Project Management

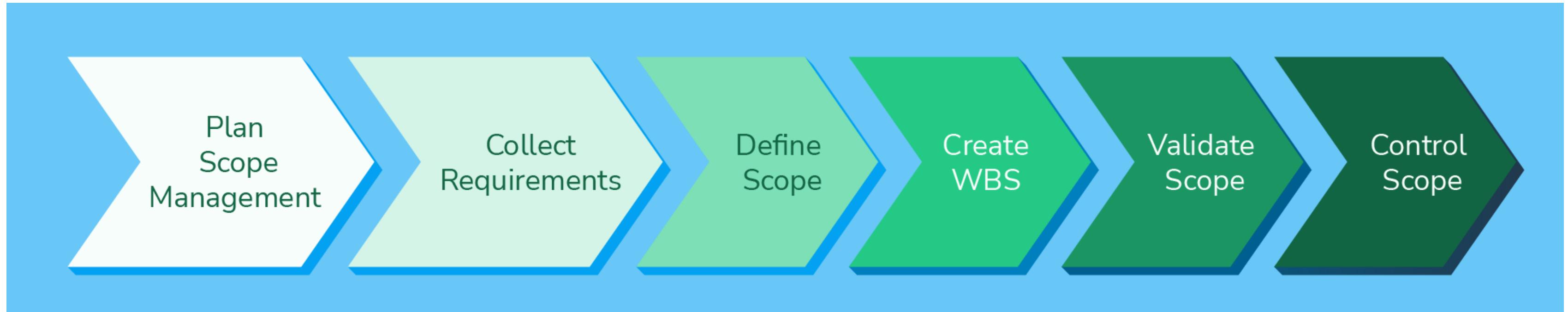
## Goal setting with SMART technique



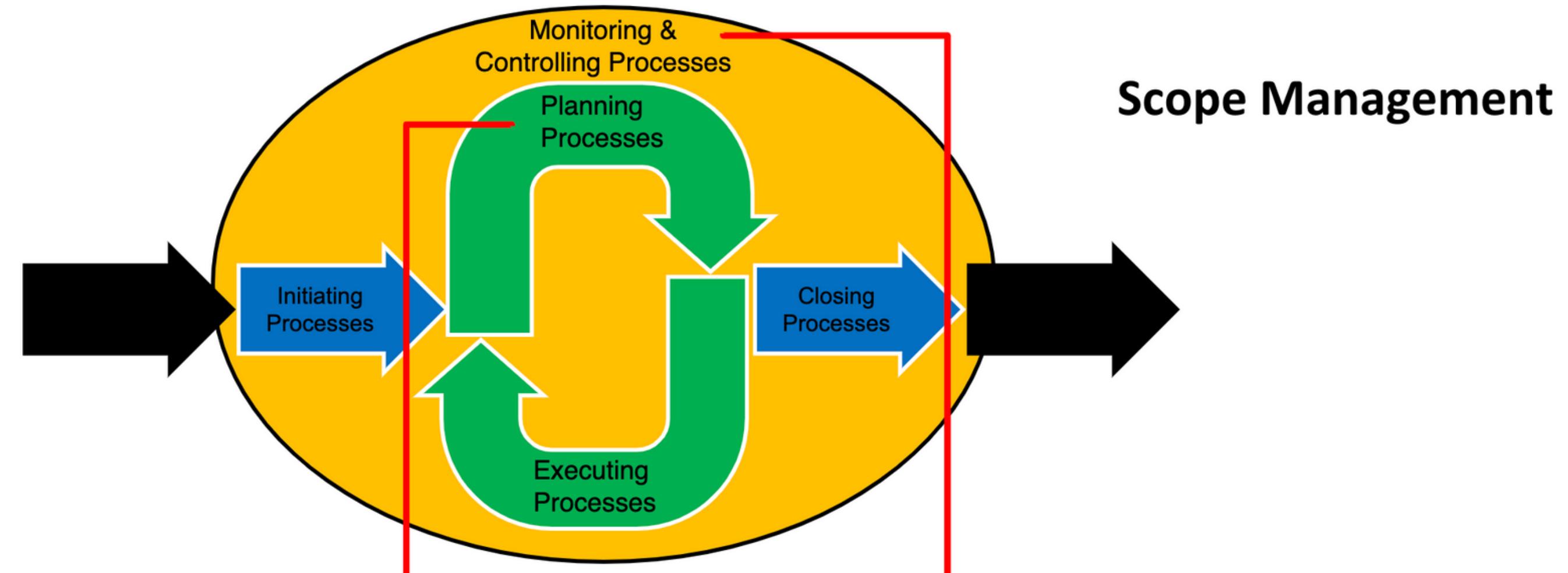
# Project Management

## 5.2 Scope Management

- *Defining, controlling, and managing the work that needs to be accomplished in a project.*
- *Ensuring that a project stays within those defined boundaries, and managing any changes that might arise to keep the project on track and within its initial objectives.*



# Project Management



Knowledge Area	Process				
	Initiating	Planning	Executing	Monitoring & Control	Closing
Scope		Collect Requirements Define Scope Create WBS		Verify Scope Control Scope	

# Project Management

## Scoping assessment

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*Scoping assessment is conducted at the beginning of the project during the initiation phase.*

- The Requirements and Process Review generates user-agreed, high-quality business requirements, and improved future processes.
- Understanding and clearly communicating the parameters and benefits of your project diminishes risk.
- Document your scope using the conversations you have had.
- Generate a requirements and process review report.



# Project Management

## Verify Scope

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*The verify scope process is a critical step in ensuring that the project's work is complete and meets the established requirements.*

*Occurs during the project's monitoring and controlling phase. Its purpose is to ensure that the project deliverables meet the defined requirements and are accepted by the stakeholders.*

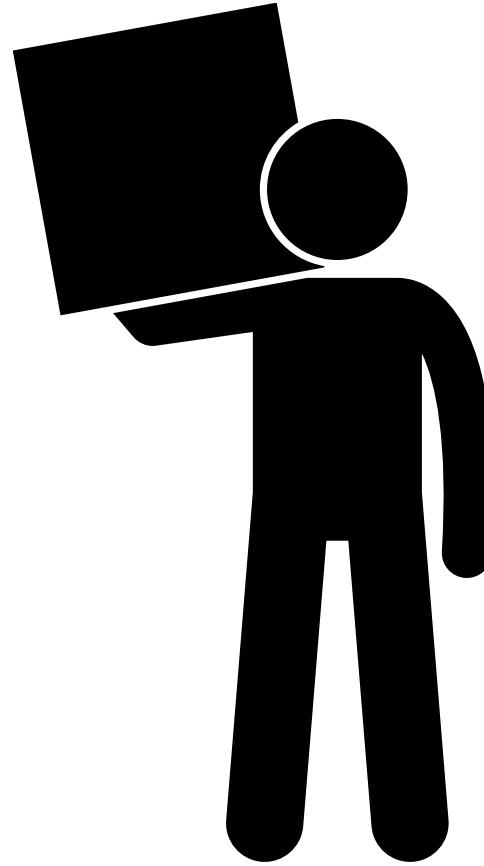


# Project Management

## Deliverables

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- Deliverables are the specific outputs that can be measured and checked against the specifications and quality standards



# Project Management

## Project Scope Baseline

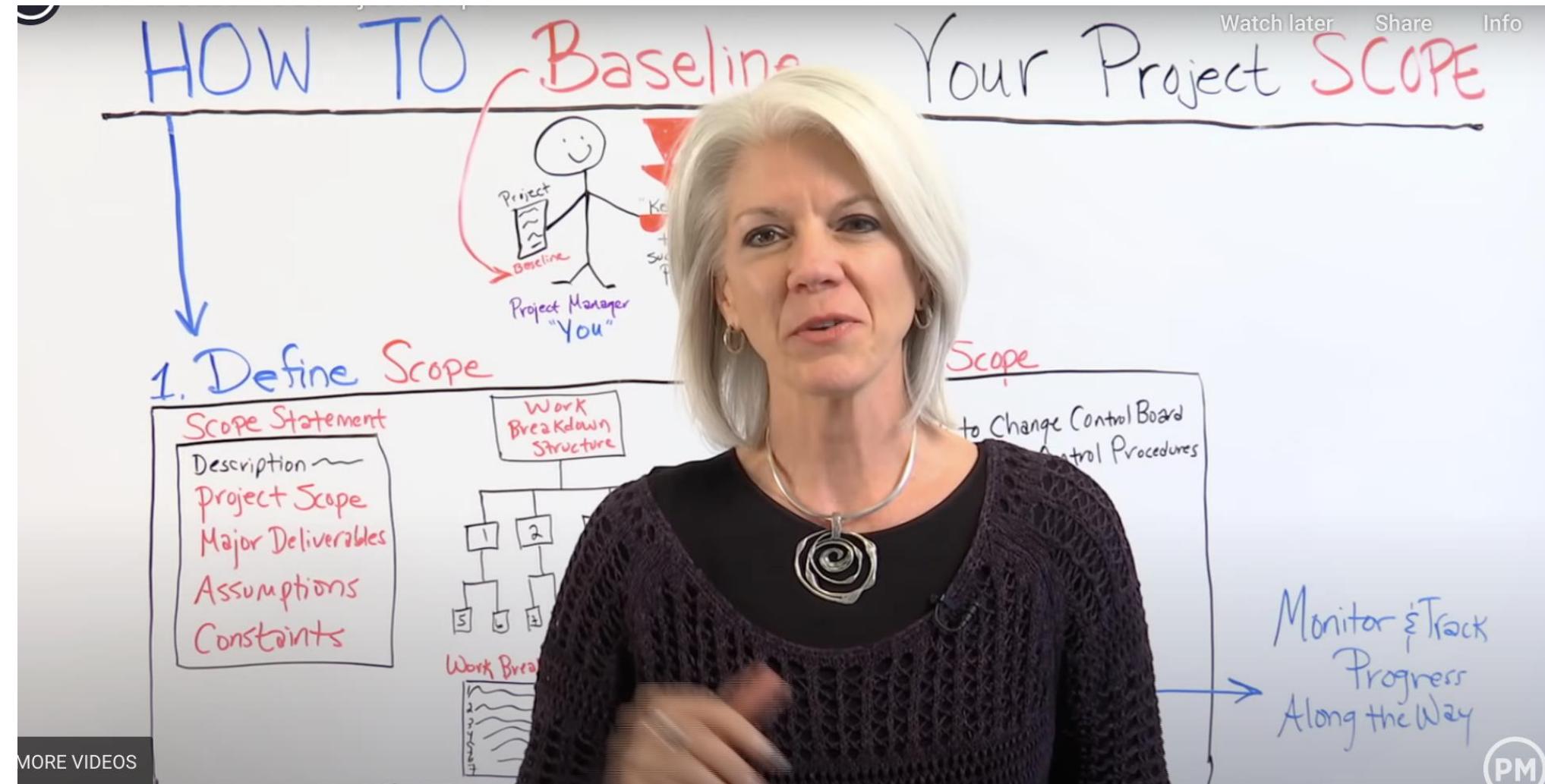
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A scope baseline is an approved version of your project scope, which is documented in a scope statement, work breakdown structure (WBS) and WBS dictionary.



# Project Management

## Project Scope Baseline



<https://youtu.be/64bHiW6K77c>

# Project Management

## Scope creep



# Project Management

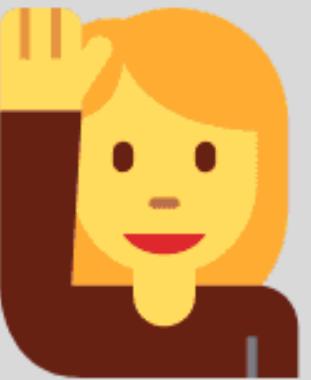
## Scope creep

### Control Scope Process

There is a small change, which was missed out. I wanted to you to consider it.

Well! While I understand how important the change is. I would need to process this through Control Scope process.

Customer



Project Manager



# Project Management

## Scope creep

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Change is inevitable. Change may come from any of the stakeholders. For instance, it may come from sponsor, or the team or any of the other internal/external stakeholders.

As a project manager, you must assess the impact of the change and take the change, through perform integrated change control process, to either approve or reject the change.

In the perform integrated change control, you assess the impact of the change to the project and see whether the project requires that change or not.

Once the change gets approval, you must compare it with the base line to see, how big the change is. And accordingly re-baseline your project management plan, scope, and other project documents.



# Project Management

## Perform Integrated Change Control

Inputs	Tools & Techniques	Outputs
Project Management Plan	Expert Judgment	Change Request Status Updates
Work Performance Reports	Change Control Meetings	Project Management Plan Updates
Change Requests	Change Control Tools	Project Document Updates
Enterprise Environmental Factors		Change Log
Organizational Process Assets		



# Project Management

## Change Request

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- Change Occurrence in the project – one or more of the stakeholder(s) request the change in the project.
- Create Change Request – The first thing that you are going to do is to document the change by creating a change request
- Assess the impact of the change to Project constraints such as scope, time, cost, quality, risk, resources.
- Process the change through integrated change control process, which we learnt in project integration management knowledge area.
- If the change does not approve, then close the change request.
- If the change gets approval, then perform Variance Analysis to understand how big the change is. And how much variance the project has compare to its baseline.
- Update all the necessary project documents such as project management plan, scope baseline, other project documents and re-baseline them.



# Project Management

## Change in Project Management

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### What Is A Change?

A Change is the modification to any Plan, project document, or baseline.

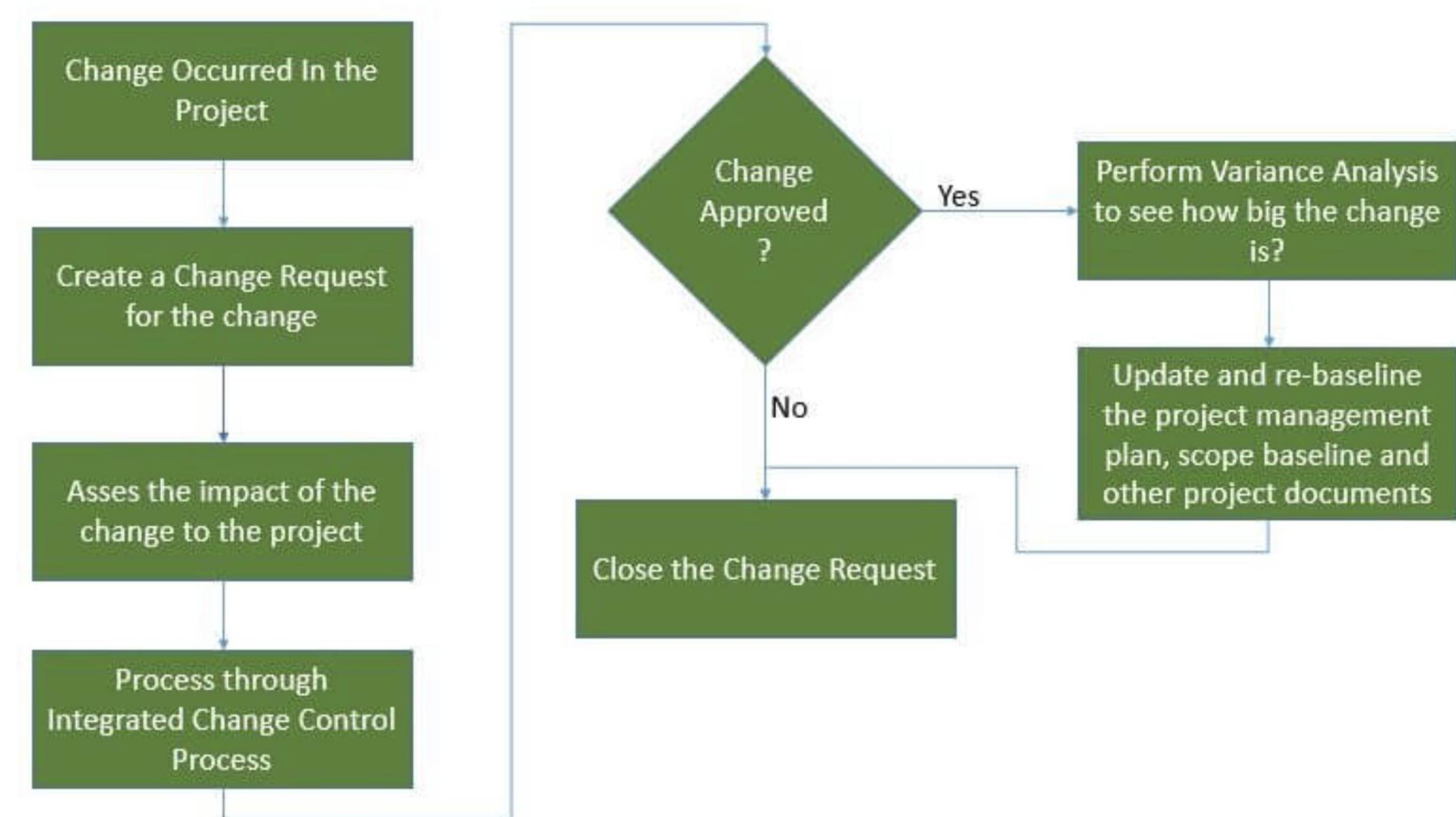
### What Is Change Request?

A change request is a formal proposal, documenting all the necessary information pertaining to the change to send it to change control board for further processing.



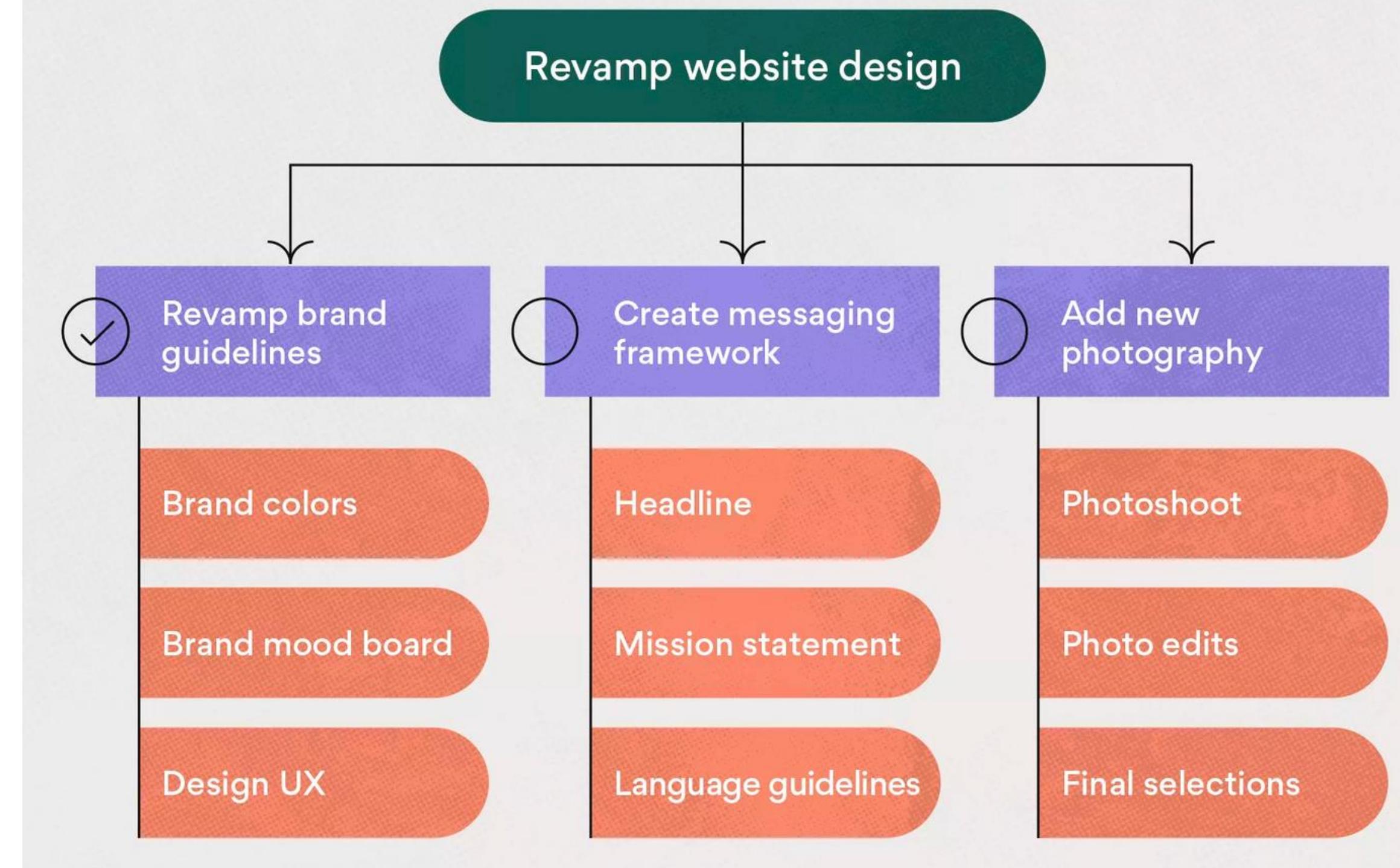
# Project Management

## Steps to Control Scope Process Using Variance Analysis



# Project Management

## Work breakdown structure example



# Project Management

## What is Variance in Project Management?

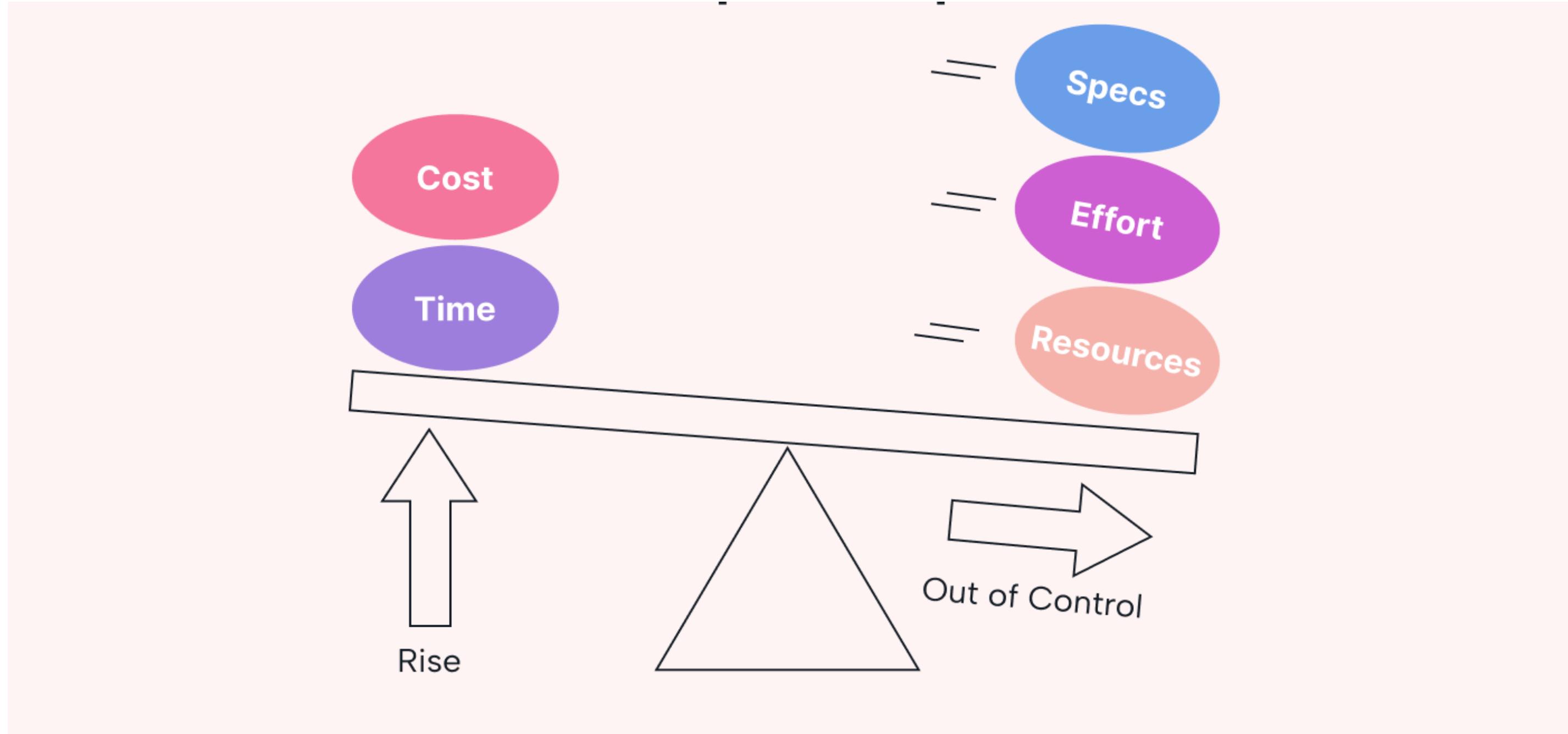
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- A variance in project management refers to any deviation from the original project plan with respect to scope, schedule, or cost parameters.
- As a project progresses, its actual performance inevitably diverges from initial estimates and baselines at one point or another.



# Project Management

## Scope creep



# Project Management

## Scope creep

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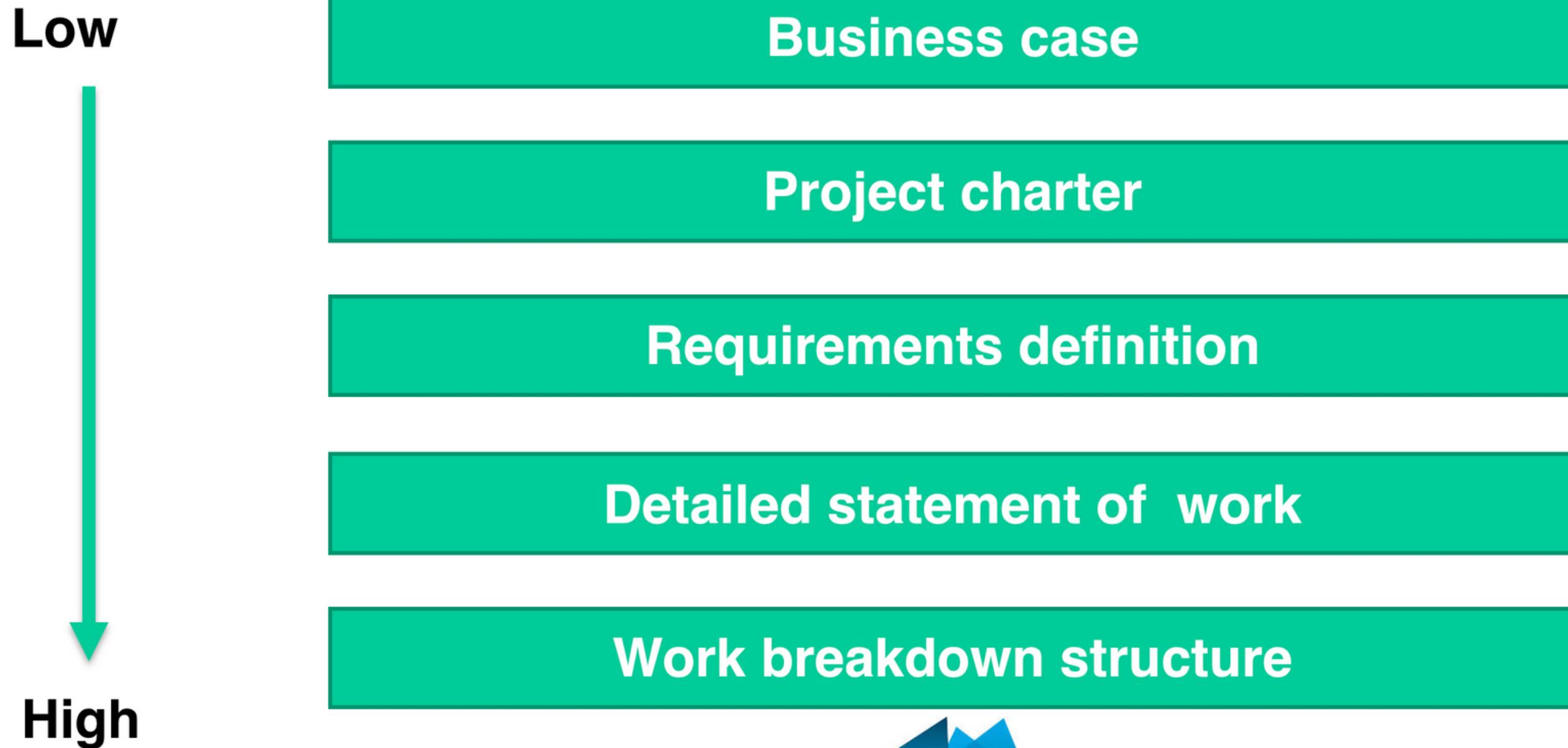


*Scope Creep*  
*Watch Here*

<https://youtu.be/pTtt4Ui1OA4?t=48>

# Project Management

## Level of detail



# Project Management

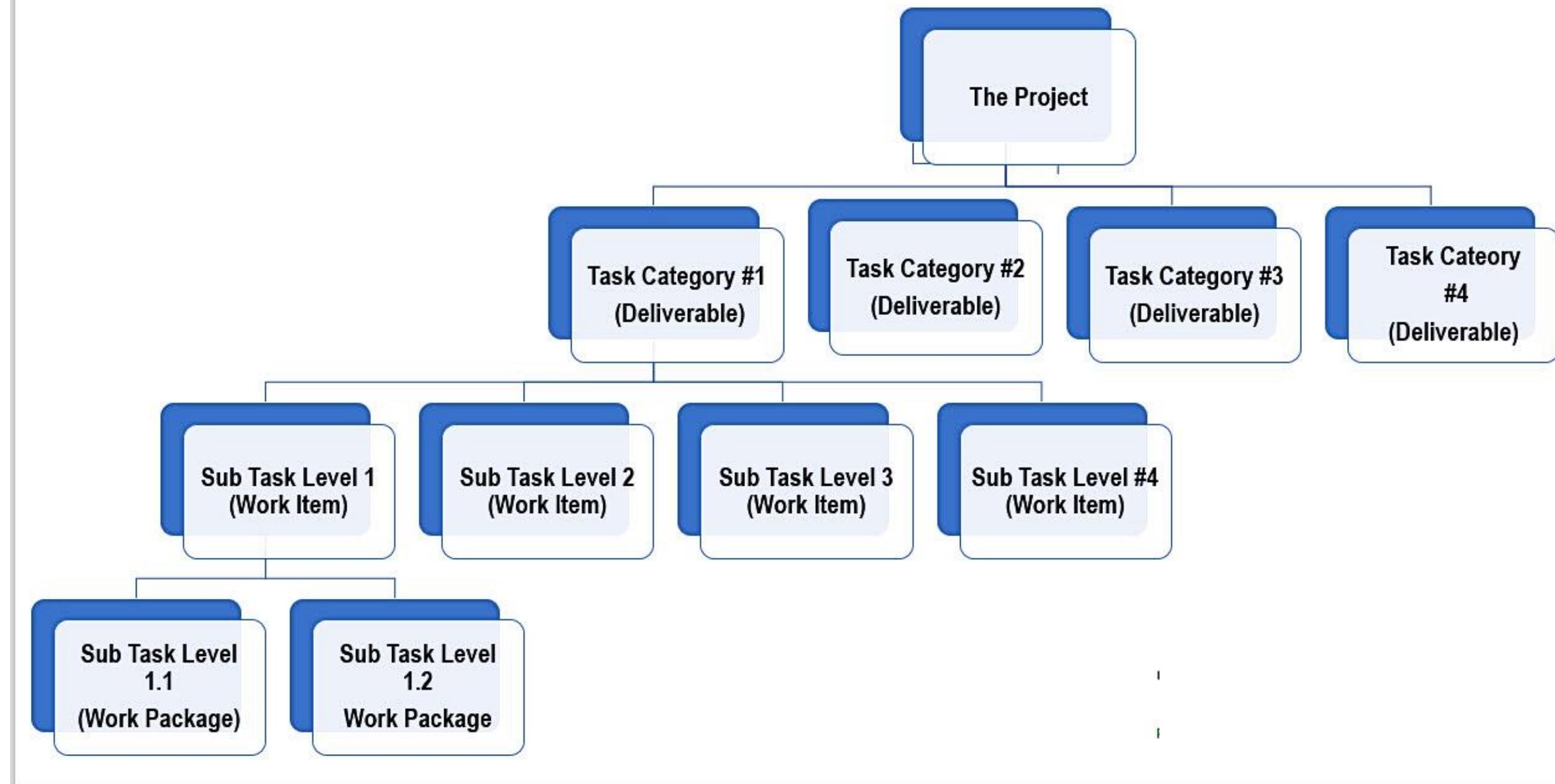
## 5.3 Create WBS

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- WBS includes the project management works.
- Work package: lowest level WBS component which can be scheduled, cost estimated, monitored, and controlled.
- WBS Structure can be organized by
  - *Phases*
  - *Major deliverables*
  - *Subprojects e.g. contracted work*
- Beware of excessive decomposition. It can lead to non-productive management effort, inefficient use of resources (performing work)
- Control account: management control point for performance measurement (one or more work packages)
- WBS dictionary provides more detailed components, e.g. description of work, responsible organization, acceptance criteria
- Agreed Scope baseline includes project scope statement, WBS, WBS dictionary

# Project Management

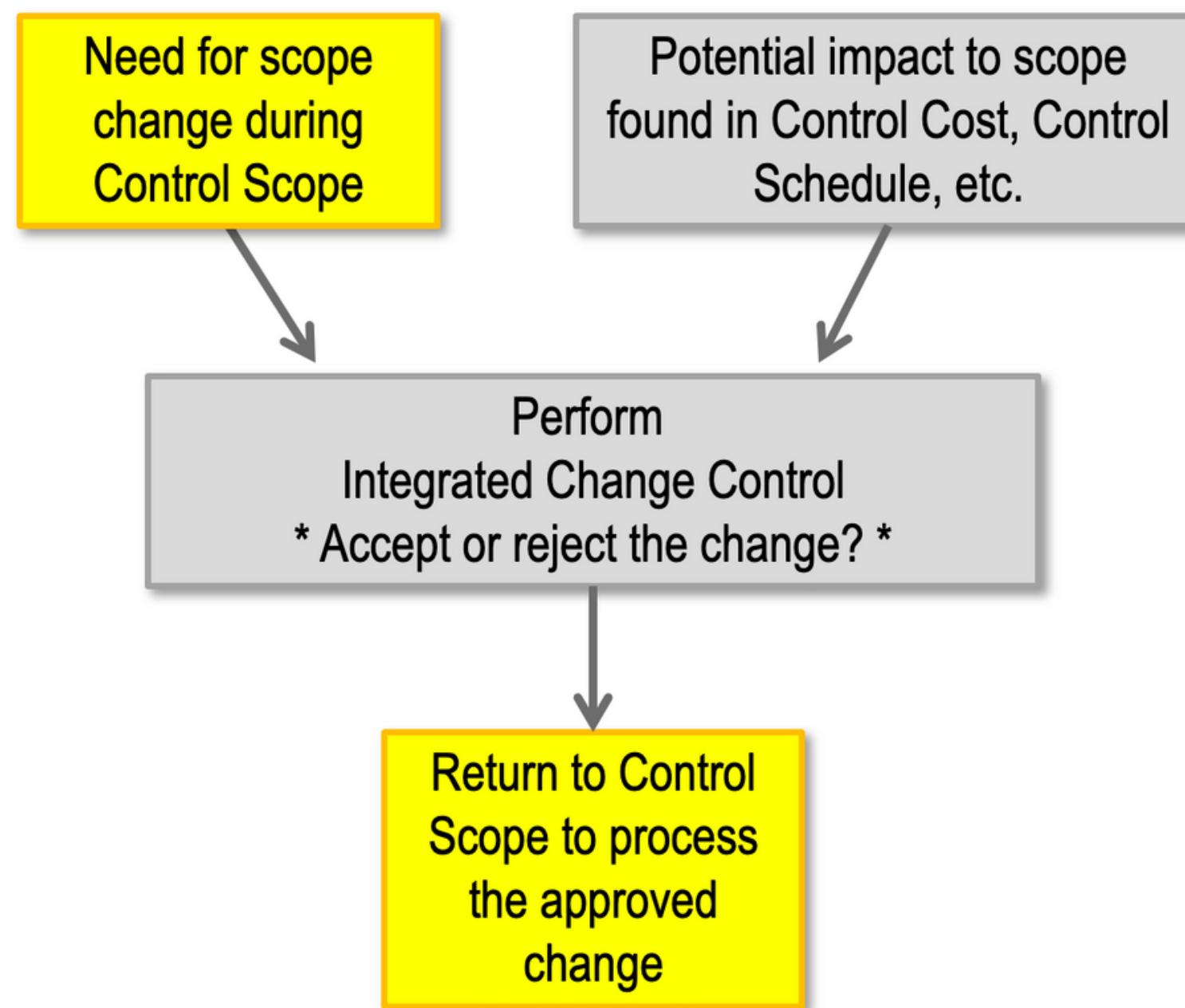
## Work Breakdown Structure (WBS)



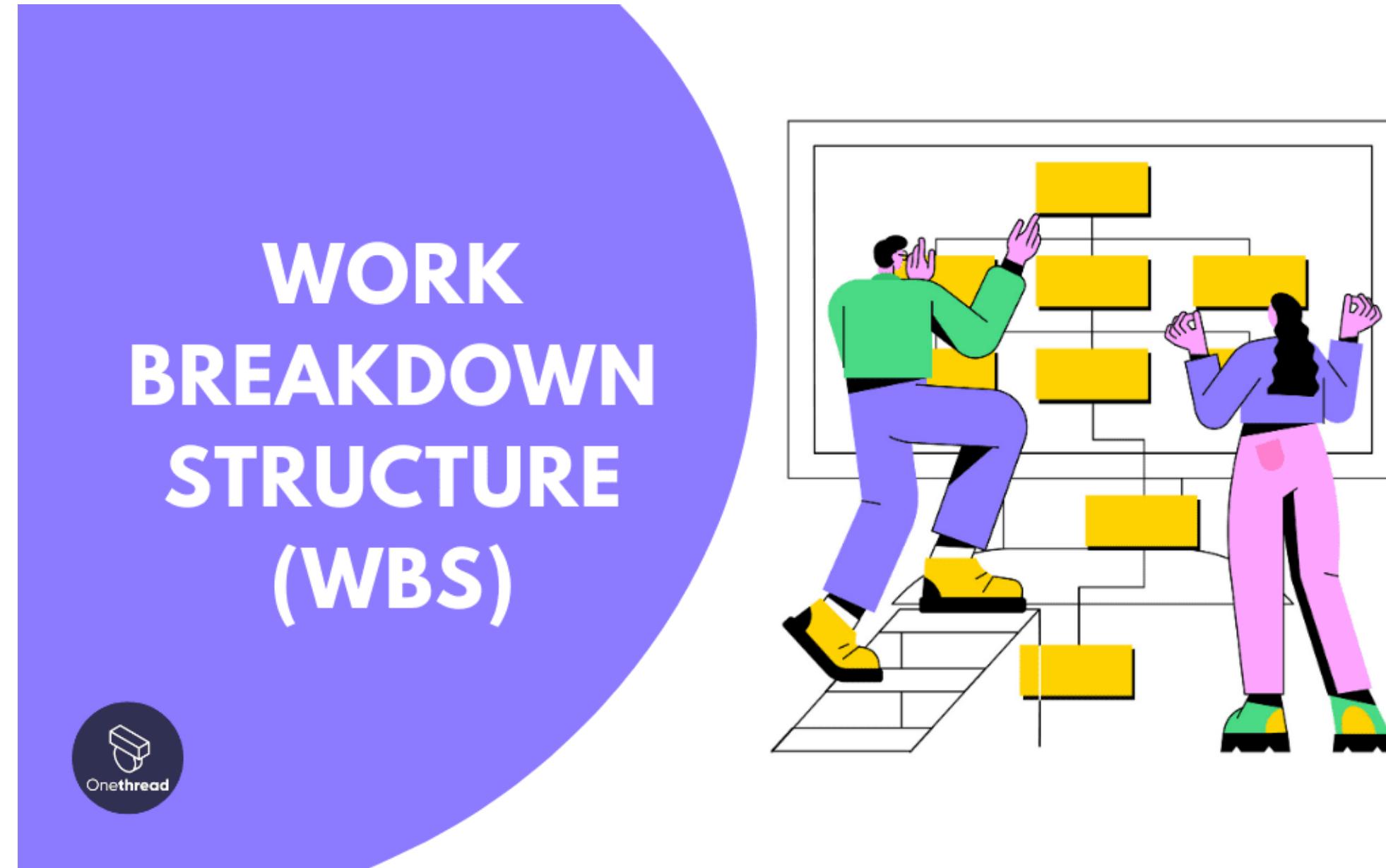
# Project Management

## 5.5 Control Scope

**Monitoring the status of the project and product scope and managing changes to the scope baseline.**



# Project Management



**Work BreakDown Structure**

**Watch Here**

**<https://youtu.be/ctBMZu8seGE?t=6>**



# Project Management

## Project Management Plan (PMP)

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- The project manager must know how to mobilize around his realization
- The PMP is always associated with other documents and plans that will contribute to the success of the project
  - *Requirements Management Plan*
  - *Time Management Plan (often referred to as THE Plan)*
  - *Cost Management Plan*
  - *Quality Management Plan*
  - *Risk Management Plan*
  - *Human Resources Management Plan*
  - *Communication Management Plan*
  - *Procurement Management Plan*



# Project Management

## A Brief

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# PROJECT WORK

# Project Management

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