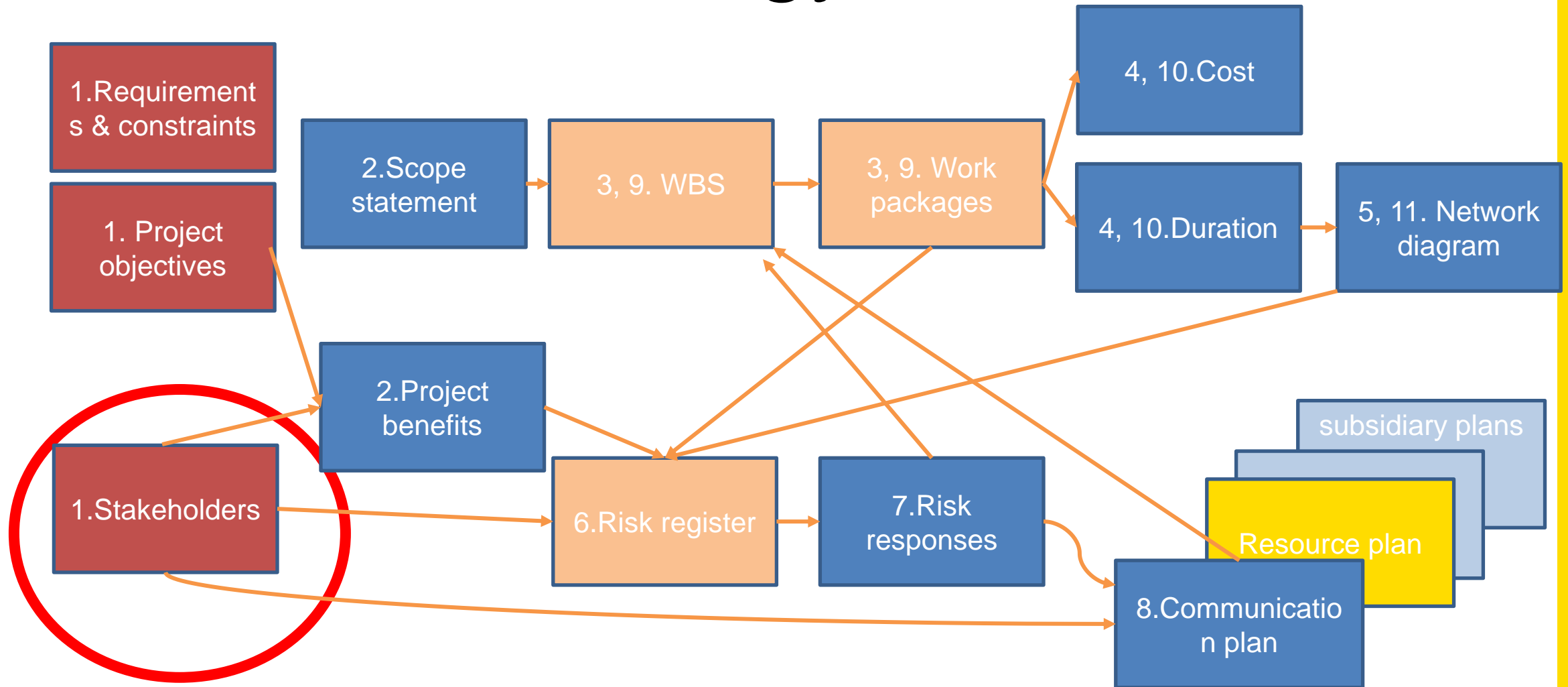


# Week 4



GSOE9820 Engineering Project Management  
Term 1 2025  
Dr. Imrana Kabir

# C3PE Methodology



# Project Charter

# Project Charter Vocabulary

## Strategic goals

Describe the **direction** of change of the organization

‘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.’

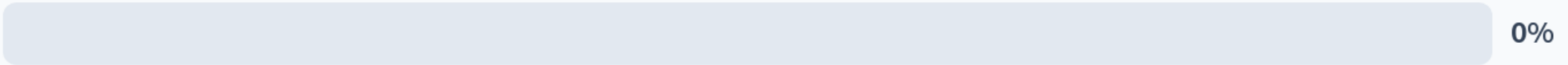
## Deliverables

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

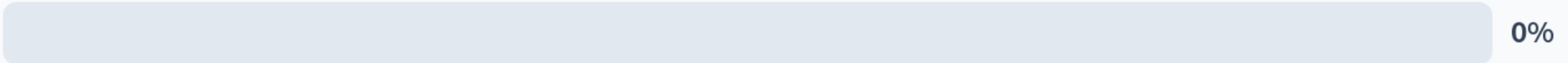
New menu structure, plan for customer journey, graphics design brief...

# 'Improve the immediate experience and long-term value of university life of current students' is a/an

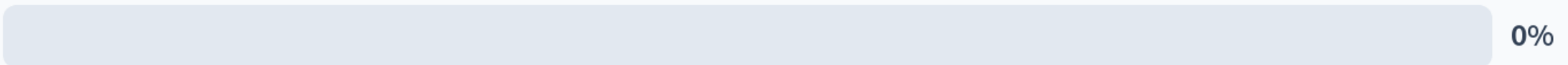
Strategic Goal



Objective



Deliverable



**'Improve the immediate experience and long-term value of university life of current students' is a/an**

Strategic  
Goal

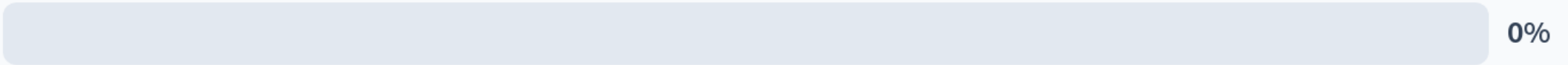
Objective

Deliverable

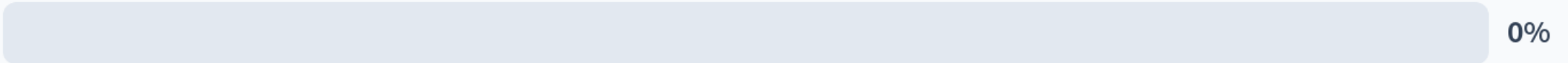
The correct answer is '**Strategic Goal**'. This statement is a high-level and long-term objective. A strategic goal is a long-term, high-level objective that organization wants to achieve to fulfill its mission.

'An engineering student common room, where all students can swipe in and use a lounge area with free coffee and group work areas' is a/an

Strategic Goal



Objective



Deliverable





**'An engineering student common room, where all students can swipe in and use a lounge area with free coffee and group work areas' is a/an**

Strategic  
Goal

Objective

Deliverable

The correct answer is '**Deliverable**'. A deliverable is the product, service or end user result of project, this statement describes an engineering student common room with its functional requirements, therefore is a deliverable.



# Project Charter Vocabulary

## Requirements

What the project deliverables or other outcomes 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’

'The new makerspace shall be usable by people with limited mobility' is a/an

Benefit

0%

Scope: Scope Statement

0%

Requirement

0%

Scope: Work Breakdown Structure

0%

**'The new makerspace shall be usable by people with limited mobility'  
is a/an**

Benefit

Scope: Scope Statement

Requirement

Scope: Work Breakdown Structure

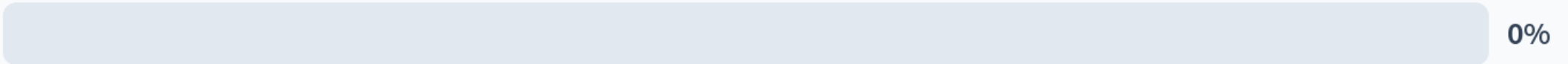
The correct answer is '**Requirement**'. This statement indicates the expectation from stakeholder and thus is a requirement (requirement is stakeholders' expectation on project), 'shall' indicates this is a compulsory project requirement.

## A User Story provides a ready-mode mapping between

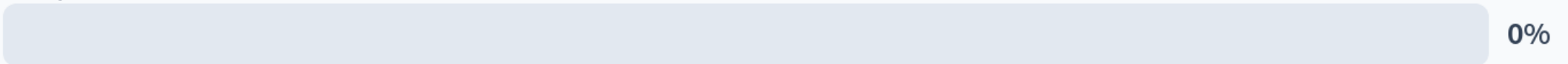
Deliverables, Outcomes and Stakeholder



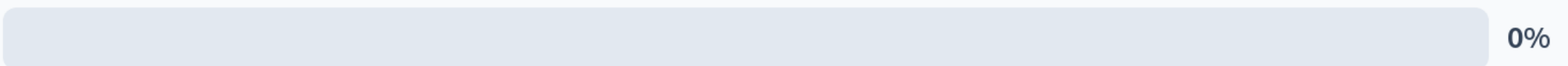
Constraint, Benefit and Stakeholder



Requirement, Stakeholder and Benefit



None of the above



## A User Story provides a ready-mode mapping between

Deliverable, Outcome and  
Stakeholder

Constraint, Benefit and  
Stakeholder

Requirement, Stakeholder  
and Benefit

None of the above

The correct answer is '**Requirement, Stakeholder and Benefit**'. Referring to lecture 1, user story provides mapping between stakeholder, requirement and benefit, 'As xxxx (stakeholder), I want to xxxx (requirement), so that xxxx (benefit)'

# The project charter...

- Formally **authorizes** 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

# The view from another textbook (Lock- Ch. 8 Project Authorization)

‘Some organisations invoke a lengthy **authorisation** procedure that consists of a project charter, followed by a contract...’

‘the charter is a form of specification that sets out the principal objectives, and is prepared for the company's senior management for consideration and **authorisation.**’

‘A **project initiation document**... is a concise and more practical alternative to the charter’

| Project Initiation Document                     |  |
|---|--|
| Project name:                                   |  |
| Project number:                                 |  |
| Contents  |  |
| Authorization                                   |  |
| For the investment:                             | <i>(signed by a company director)</i>  |
| For benefits realization:                       | <i>(signed by the project manager)</i> |
| Document control                                |  |
| Version control and issue date                  |  |
| Distribution                                    |  |
| Key project personnel                           |  |
| Purpose of this document                        |  |
| Application                                     |  |
| Focus and closure                               |  |
| Change and return on investment                 |  |
| References and links                            |  |
| Contract summary                                |  |
| Baseline state                                  |  |
| Details of subsequent changes                   |  |
| Objectives and scope                            |  |
| Deliverables (including the recognition events) |  |
| Benefits (including the value flashpoints)      |  |
| Costs   |  |
| Overall cost/benefit analysis                   |  |
| Sponsorship and stakeholders                    |  |
| Project team                                    |  |
| Business team                                   |  |
| Governance (project management methods)         |  |
| Reporting requirements                          |  |



# Other Authorizations - In rough order of complexity

- Charter and contract
- Project Initiation Document
- Customer contract, or works order
- Internal memorandum

# Charter and PMP

## In the project lifecycle

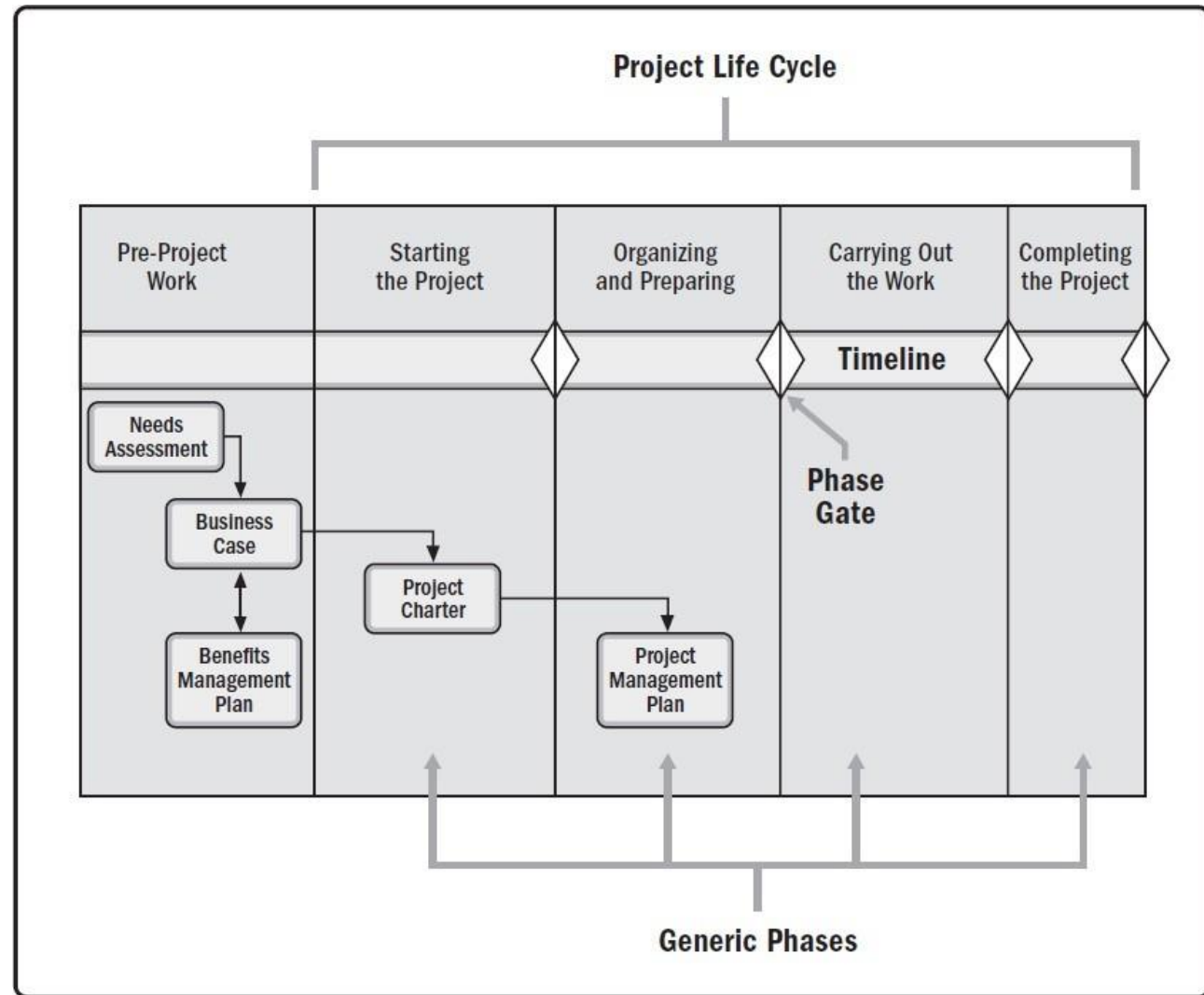


Figure 1-8. Interrelationship of Needs Assessment and Critical Business/Project Documents

# What goes in your project Charter?

## Presentation assignment brief & rubrics

Add an introduction section to your PMP that demonstrates a direct link between the project benefits, its major deliverables, stakeholders, and the strategic objectives of the client organisation.  
(assignment brief)

Provides a systematic connection between organisational strategy, deliverables, benefits, and stakeholders including a written description that makes this easy to understand  
(PMP Rubric)

## PMBOK 6<sup>th</sup> Ed. Part 1, Sec 4.1.3.1: charter item

Project purpose

Objectives and success criteria

Requirements

Assumptions, constraints

Description and project boundaries

High level risks

Summary milestone schedule

Summary budget

Stakeholder list

Approval requirements

Definition of success

PM nomination

Sponsor nomination

# Setting SMART objectives

## Objectives

| SMART(A) Objectives | An MM 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 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 cell for research into incremental forging technology that will be used by PhD students and student project teams... within six months of delivery of major components. |
| (Achievable)        | (All areas)  |

# Stakeholders

# Stakeholder identification

After understanding the business case, the organizational 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 (6<sup>th</sup> Ed), Part 2, Sec. 1.6

PMBOK Guide (6<sup>th</sup> Ed), Part 1, Sec. 13.1 & 13.1.2

# Stakeholders in Lock Ch. 2 – Factors for project success and failure.

- Contracting organization and customer are two primary stakeholders. [What about others?](#)
  - [Do not all have same view of a project](#) (example: motorway users and home owners)
  - True measure of project success or failure [depends on how the project outcome is perceived by all the stakeholders.](#)
- 
- Identify & rank:
  - Lock uses three categories of stakeholders
    - [primary](#) (direct financial interest)
    - [Secondary](#) (people who work on the project or interact with the deliverables)
    - [Tertiary](#) (people who could be affected by the secondary stakeholders)

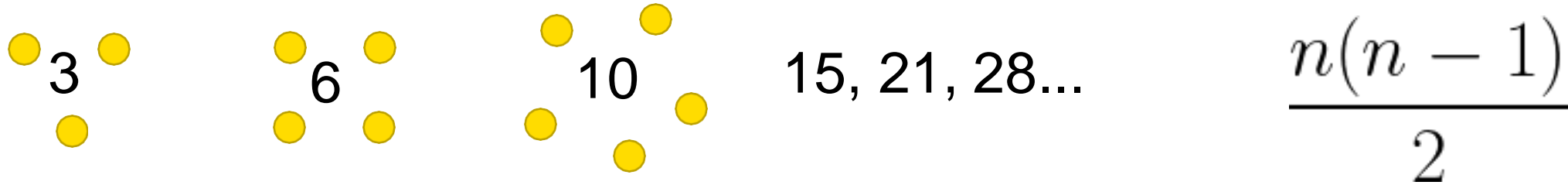




# Project team and project internal stakeholders

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

Too many communication channels = Too much complexity.

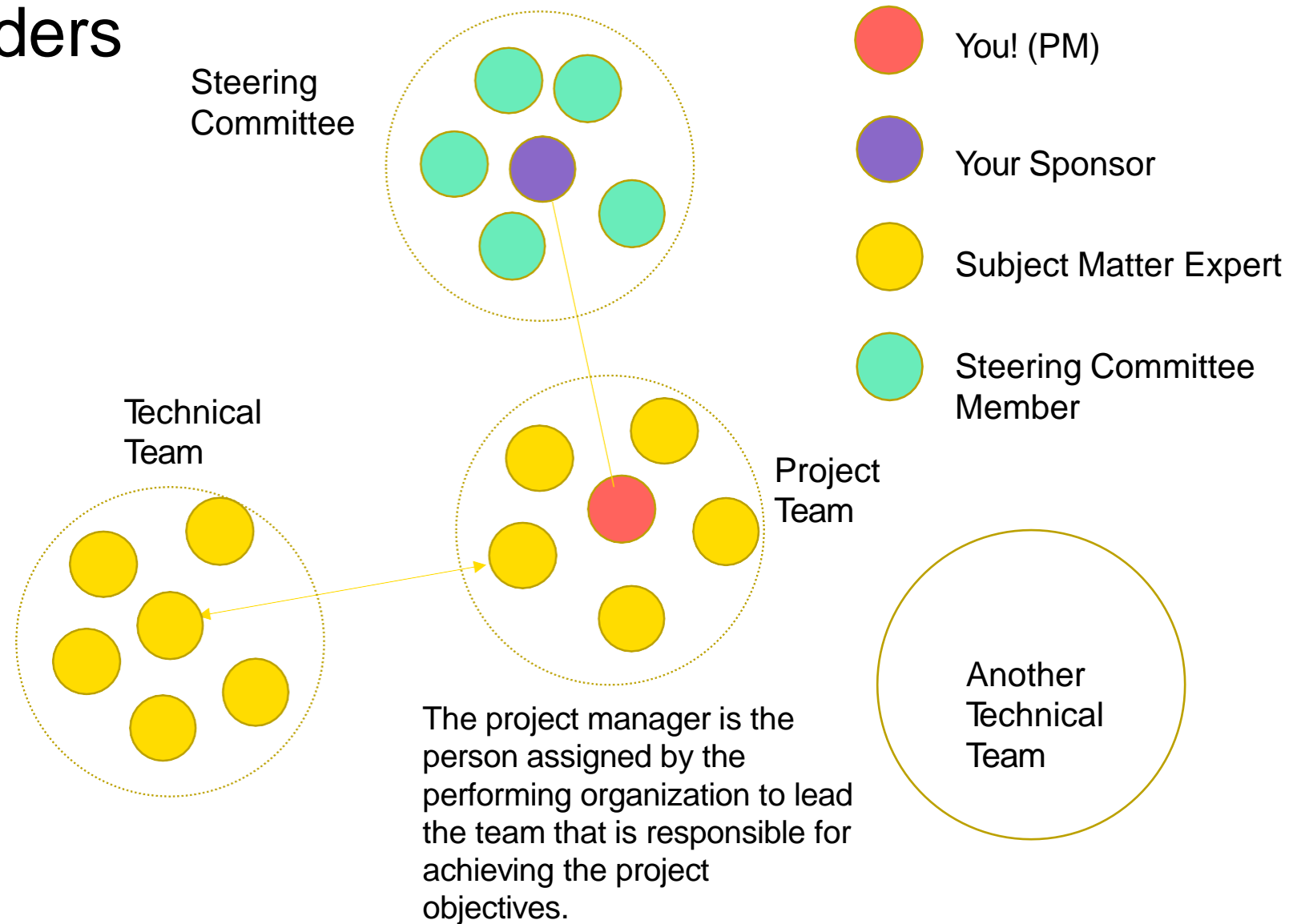


2. Therefore, we need to introduce some **structure** around communication channels and team members

- Organizational
- 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 teams (may be a PM themselves)
- Technical Teams can be internal to project executing organization or could be **contractors/ suppliers**
- There can be many technical teams (only 1 project team and 1 steering committee)
- Subject matter experts move between their technical team and the project team



## From the PM's point of view, what is the most essential function of a steering committee

Provide funding

0%

Make decisions

0%

Engage outside the organization

0%

Communicate with senior management

0%

# From the PM's point of view, what is the most essential function of a steering committee?

Provide funding

Make decisions

Engage outside the  
organization

Communicate with  
senior management

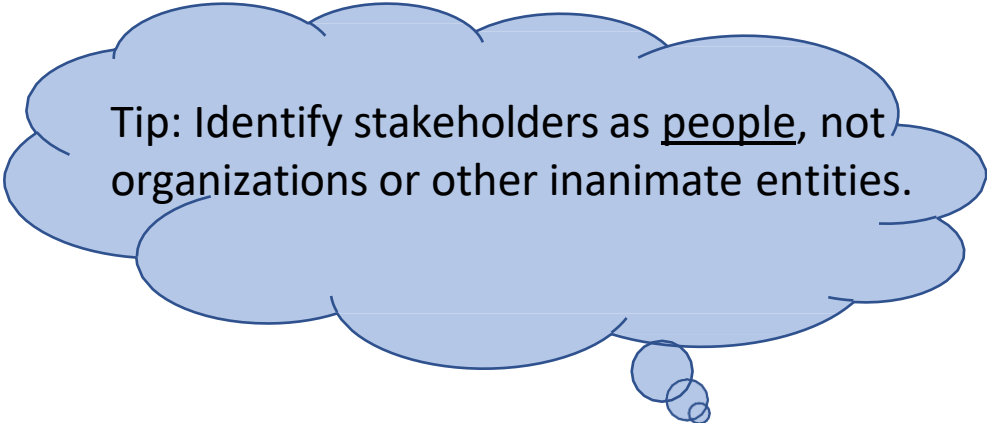
The correct answer is '**Make decisions**'.  
Referring to previous slide, sponsor is leading a project or initiative through a steering committee, which is responsible for making important decisions in a timely manner.

# Stakeholder register - how do we find stakeholders?

- Identify stakeholders:  
Brainstorming, expert judgement, surveys, questionnaires, meetings
- Analyse stakeholders
- Classify stakeholders

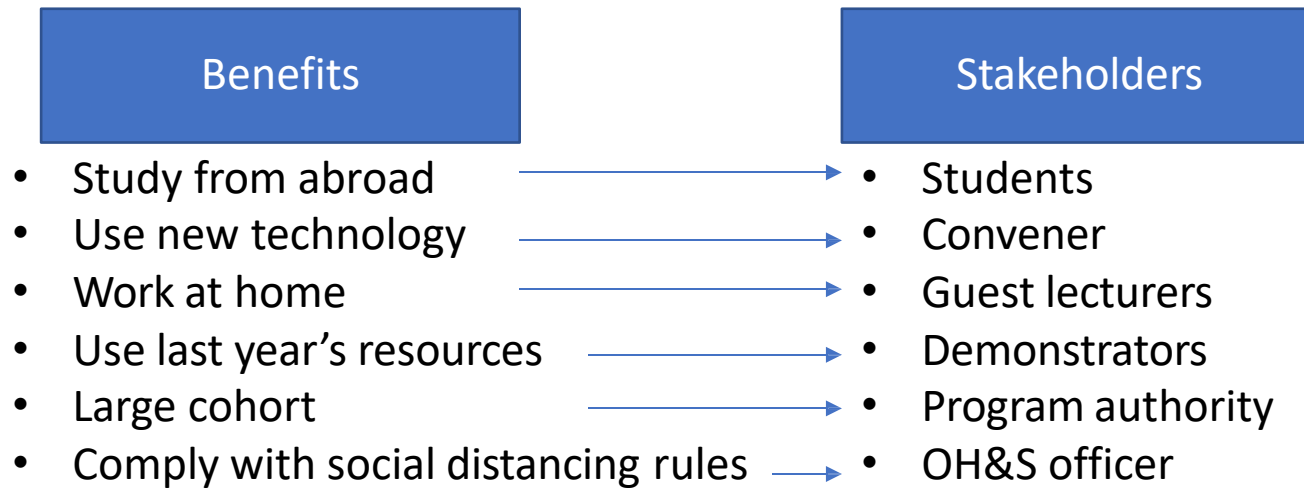
Stakeholders in '100% digital delivery and assessment in GSOE9820 T1 25'

- Students
- Convener
- Guest lecturers
- Experienced demonstrators
- New demonstrators
- MME school management team
- Engineering faculty school management team



Tip: Identify stakeholders as people, not organizations or other inanimate entities.

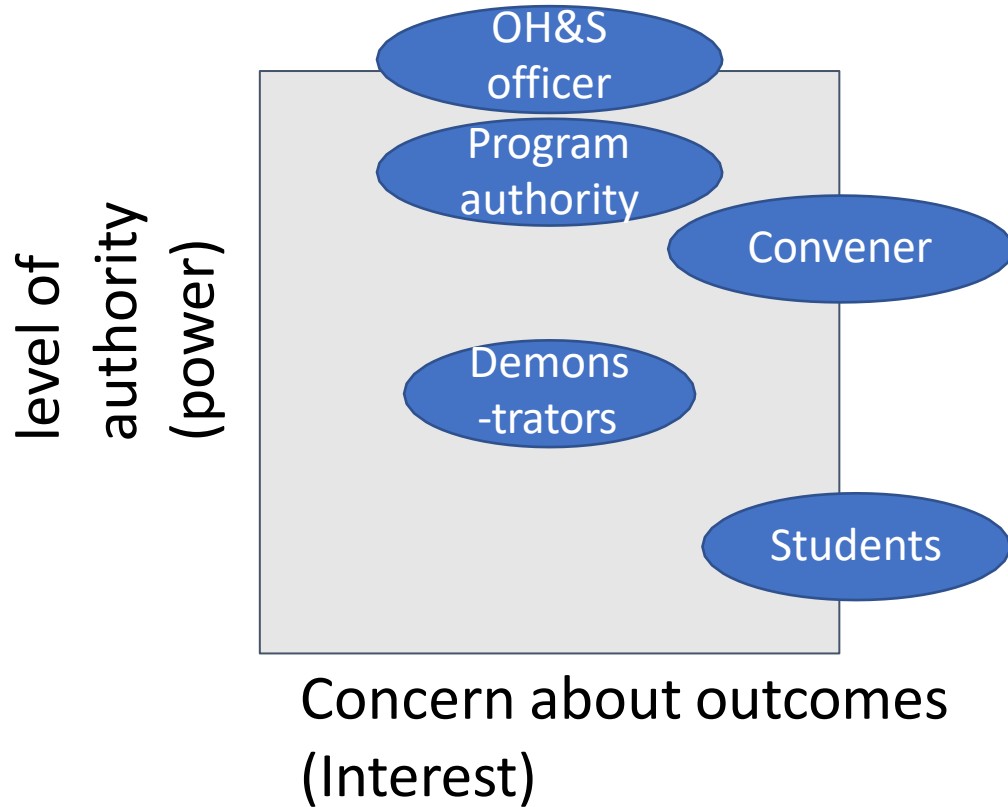
# Benefits make sense when they are related to stakeholders



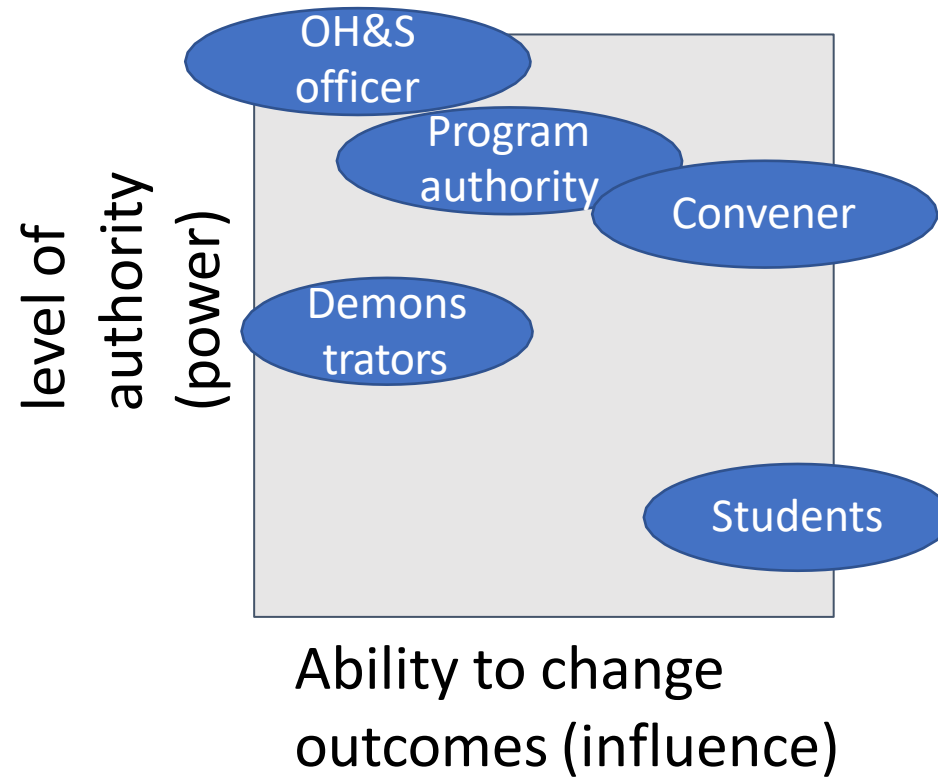
Example: Some benefits of building a new online university course...

# Methods for stakeholder analysis (part of PMBOK 'Identify Stakeholder 13.1.2.4')

Power interest grid



Power influence grid



Stakeholders in a new online university course



# Engagement level of stakeholders

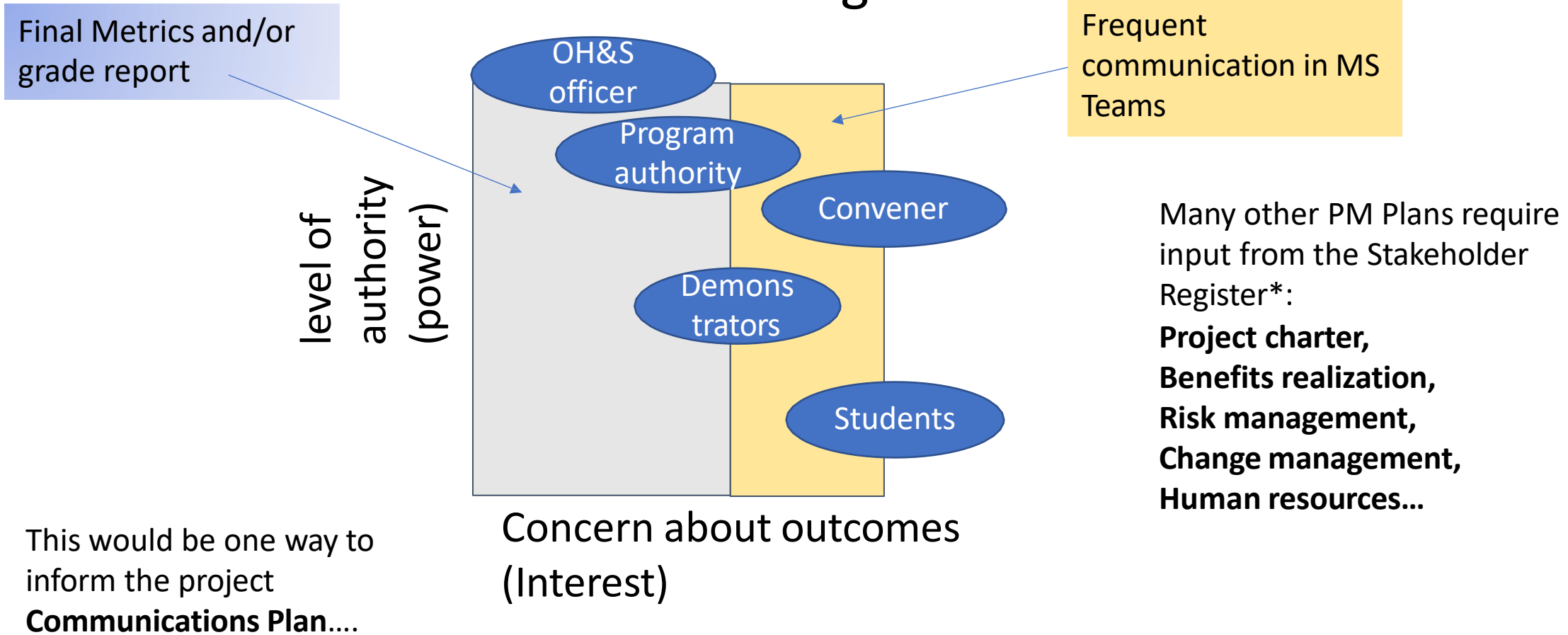
| Name              | Unaware | Resistant | Neutral | Supportive | Leading |
|-------------------|---------|-----------|---------|------------|---------|
| OH&S officer      | C →     |           | D       |            |         |
| Program authority |         |           |         | CD         |         |
| Convener          |         |           |         | C →        | D       |
| Demonstrators     |         |           | C →     | D          |         |
| Students          |         | C →       |         |            | D       |

C=Current position

D=Desired position

# Outcomes of stakeholder classification

## Power interest grid

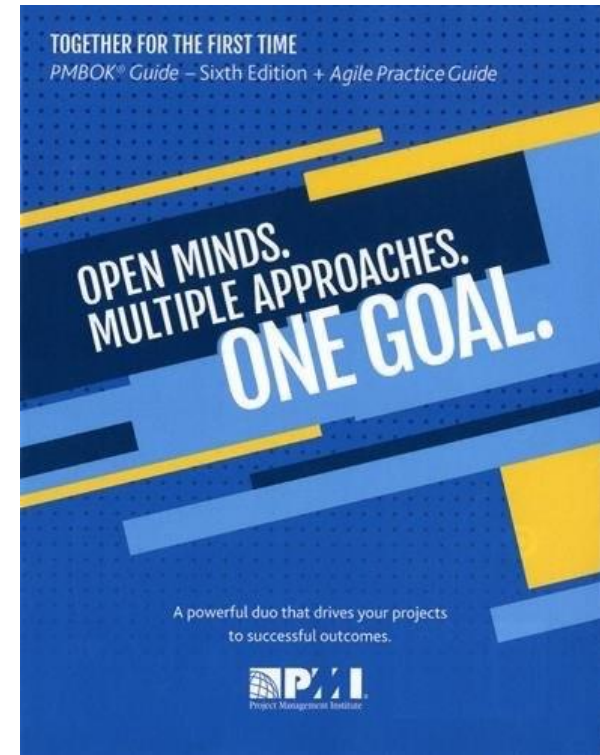
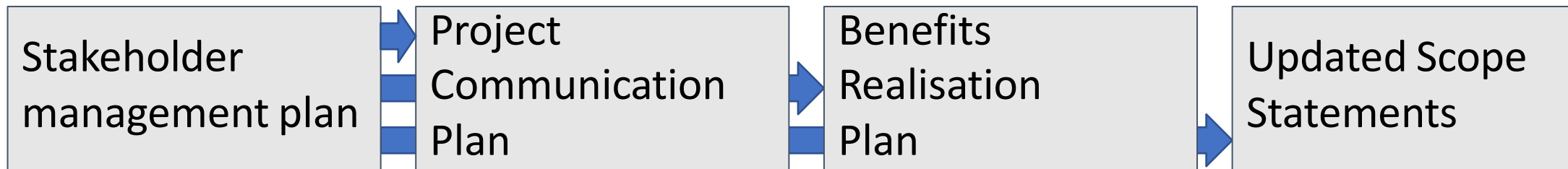


PMBOK Guide (6<sup>th</sup> Ed), Part 1, Sec. 13.1.3.1

# PMBOK Ch. 13 - Project Stakeholder Management

To start with, what would we expect to see in a Stakeholder Management Plan?

1. Stakeholder Register
2. Desired and current engagement levels
3. Scope/impact of change to stakeholders
4. Identified interrelationships and potential overlap of interests
5. Stakeholder communication requirements
6. Information to be distributed to stakeholders
7. Reason for distribution, expected impact
8. Methods for refining and updating stakeholder management plan



# Summary points (stakeholders)

- Success in **stakeholder** management and **engagement** is a prerequisite for multiple aspects of PM, throughout the whole project lifecycle
- Besides understanding **requirements** and **objectives**, stakeholder identification is your first task as PM in **Project Initiation**.
- Stakeholder identification feeds directly into your Stakeholder Management, understanding definition of **project success**, and **Project Charter**.

# 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](#)

# Task 2 Example – Stakeholder

- Stakeholder Management
- Biomedical project (Agila Pump)

# Stakeholder Assessment - Register

| Stakeholder         | Power<br>(0 – 5) | Interest<br>(0 – 5) | Benefit   | Expectations   |
|---------------------|------------------|---------------------|---|--|
| FKA Researchers     | 4                | 4                   | The researchers are the people who possess the technical ability to complete the project (development of the AI algorithm, cloud database, reporting, etc.) | The researchers should expect to have clear and concise instructions and tasks from the PMs.   |
| Fresenius           | 5                | 3                   | This project will promote the parent company Fresenius.   | Fresenius should expect FKA to successfully complete the project with little to no involvement, while ensuring that they [FKA] align with Fresenius' Strategy Model. |
| Patients            | 1                | 1                   | The patients are the target user for the Agilia VP and SP pumps.  | The patient should not expect any apparent changes in the Agilia VP and SP pump infusion delivery.   |
| Hospital Management | 3                | 3                   | The hospitals where the algorithm is trialled at mean that FKA's research can be spread through word-of-mouth.  | The hospital management should expect forms detailing the trials conducted at hospitals, covering all scope of the experiment.                                       |
| Nurses              | 2                | 4                   | Nurses are the people directly interacting and delivering the infusion from the Agilia VP and SP pump.  | Nurses should expect to no longer fill out error forms on the Agilia VP and SP pumps upon project completion.  |

0: Least powerful/interested

5: Most powerful/interested



# Stakeholder Engagement Matrix

## 5.3 Stakeholder Engagement Matrix

A stakeholder engagement matrix is designed to assess the stakeholders’ current level of engagement to the project, as well as their desired level to the project. Note in the following table, C = Current Position, D = Desired Position.

Table 5.3: Stakeholder Engagement Matrix

| Stakeholder          | Unaware | Resistant | Neutral | Supportive | Leading |
|----------------------|---------|-----------|---------|------------|---------|
| Sponsor              |         |           |         | C D        |         |
| Project Managers     |         |           |         |            | C D     |
| FKA Researchers      |         |           |         | C          | D       |
| Fresenius            |         |           | C       | D          |         |
| Patients             | C D     |           |         |            |         |
| Hospital Management  |         |           |         |            |         |
| Nurses               |         |           | C       | D          |         |
| Biomedical Engineers |         |           | C       |            | D       |

# Stakeholder – Power Interest/Influence Grid

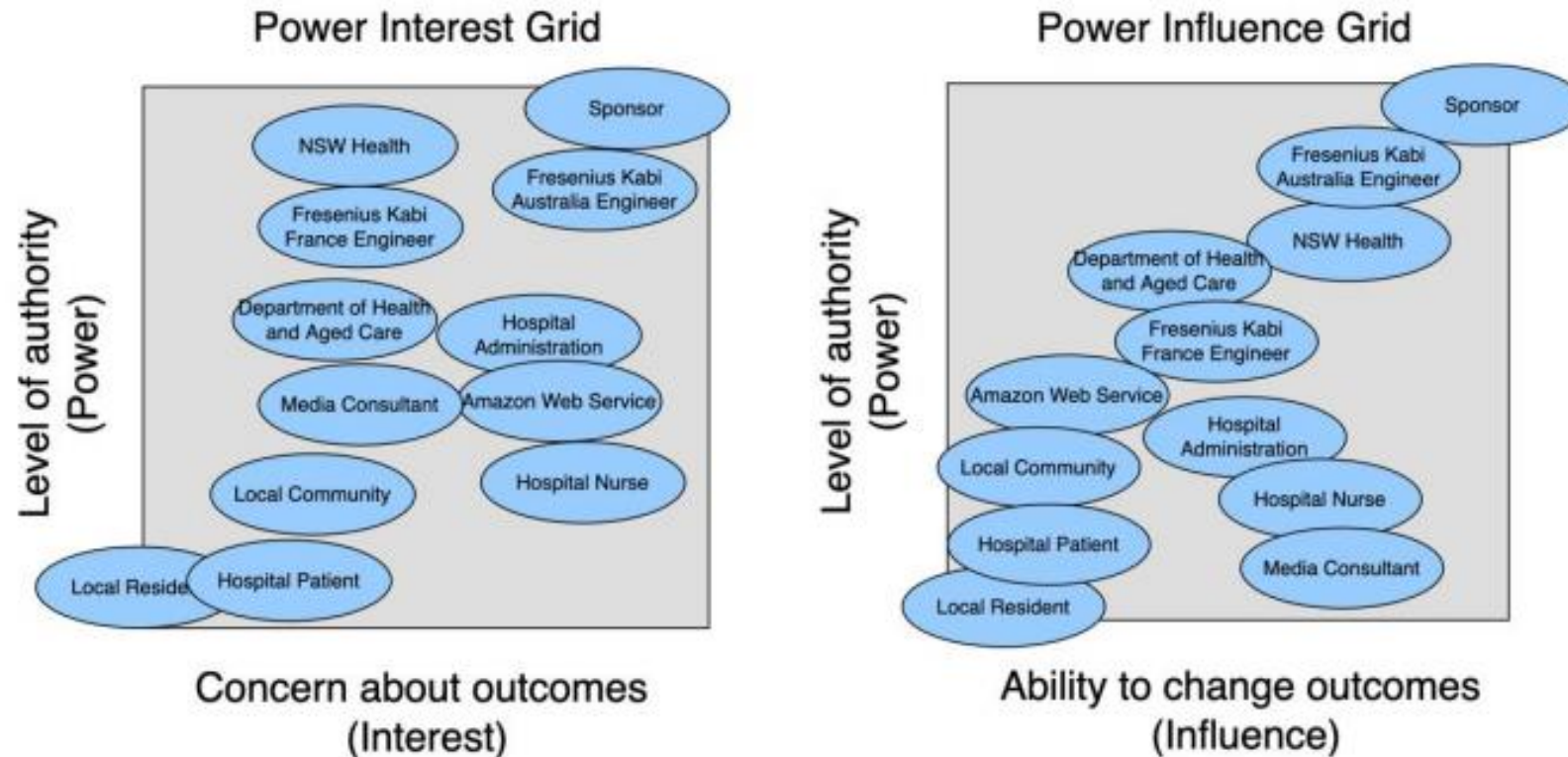


FIGURE 7. STAKEHOLDER ANALYSIS: POWER/INTEREST GRID.

# Stakeholder Management Strategy (partial)

## 2.2 Detailed Stakeholder Management Strategy

The table below shows the management strategy for each stakeholder based on the assessment above:

| Stakeholders            | Influence      | Interest | Management strategy  |
|-------------------------|----------------|----------|--|
| Project management team | High           | High     | Meetings twice a week  |
| Tong Ju                 | High           | High     | Meetings once a week   |
| UNSW students           | Medium<br>high | High     | Meetings for those involved in UI testing<br>Emails for others |
| UNSW staff              | Medium<br>high | High     | Meetings for those involved in UI testing<br>Emails for others |