PROJECT MANAGEMENT PLAN

BUSINESS SCHOOL

THE UNIVERSITY of ADELAIDE

GROUP 26

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Introduction

Project management knowledge and its methods have been widely applied in different management areas, which is a key role to enable the successful implementation of projects (Munns & Bjeirmi 1996, p. 82). This assignment covers the interpretation from group members about some core project management concepts including charter, project organisation structure, stakeholder management plan, and communication management plan, as well as the practical application of these concepts to the selected case. The second project of ABS Homes is selected as the case study— constructing a 20-storey apartment, which is one of the total three projects planned to implement in 2023 due to the company's business expansion to Adelaide. Given that it is a common construction project, the same type of project management plan is used as a reference in this assignment to provide relevant structures and specific data, in addition, the relevant management knowledge is applied to fill the structures and the analysing process is also demonstrated.

Part 1. Project charter

1. Project brief

In the past few years, ABS home has had valuable feedback on building quality single-family home and townhouse in the headquarter Melbourne, and it is on the rise at the current stage, business expansion could have a positive impact on occupying the market and consolidating the market position in a competitive environment. The property market in Adelaide is not saturated, it is an opportunity for ABS home to fill the gap. The business expansion will mark the beginning of the strategic goal of transforming from a medium-sise enterprise to a large enterprise for ABS home.

The strategy of business expansion is to apply the same pattern of Melbourne to the other cities, including products-display office site setting, products production, and products promotion. The construction of this 20-storey apartment at the corner of Regency Road and Churchill Road in Prospect belongs to the product production.

The objective of the apartment construction project is to build a quality single-family apartment with 20 storeys on the selected site within a budget of about $20million and within schedule before 2025.12. The biggest challenge could be the unacquaintance of the local resources since Adelaide is a different

city from a different state. The target audiences are those single or married with no children who enjoy the bustling downtown life.

2. Importance of project charter

Project charter in (PMBok@6) is defined as a document compiled by the project initiator or sponsor which approves the project officially and defines the authority of the Project Manager for mobilising organisational resources.

To be more specific, (McKeever 2006, p. 7) states that the project charter provides an overall and high-level overview of the project. It is the agreement, written authorisation as well as a fundamental communication tool during a project, which enables all stakeholders to agree on and document project scope, duration, funding source, stakeholders list, and project team members' responsibilities. The core of the charter is consensus and collaboration among key stakeholders. It is created at the initiation phase of the project and integrated throughout the project lifecycle to assure the work at each stage consists of the expectations set out in the project charter.

According to the paper (McKeever 2006, p. 9), a project charter ensures the acquirement of management commitment, resource use, and stakeholders' support for the project manager, to increase the odds of the project being executed successfully. Another advantage is that it helps senior leaders entrust authority to the project manager, which could avoid conflicts between project manager and functional managers since the roles and responsibilities are identified distinctly at an early stage of the project life cycle. In short, project charter is an effective technique to initialise a project properly and help project managers and organisations to deliver more successful projects.

3. Apartment construction project charter

This apartment construction charter includes the scope, duration, budget, constraints assumptions and risks, stakeholders, government agencies, approval, exit criteria, and organisational structures. Some of which are demonstrated with more details, such as the assumption, stakeholder identifications parts, and the rest of the parts are mentioned roughly. This apartment construction charter should includes the scope, duration, budget, constraints assumptions and risks, stakeholders' identifications, approval. Some of which are demonstrated with more details, such as the assumption, stakeholder identifications sections, and the rest of the parts are mentioned roughly.

3.1 Assumptions

(Bright Hub pm 2010) points out that Project charter assumptions are situations that are taken for granted due to a lack of specific information. This information or events can have an impact on the project as it cannot be controlled and understood by the team. Therefore, it is necessary to make assumptions concerning these issues to allow the project to progress.

Every assumption in the project charter should be listed out and then analysed the risky level. The failure to find all relevant assumptions could have a negative influence on planning progress. To prevent this failure, more stakeholders should be involved so that more assumptions can be included in the project charter. Even though the success of the project still cannot be ensured with all assumptions considered, the likelihood of success could be improved. Analysation of each assumption by rating the risky level, and the one with higher risky level should be highlighted and given specific treatment to reduce the impact on the project. Specifically, according to (Kies, 1995), he introduced the method to rate assumption by analysing whether the consumptions are warranted or unwarranted, explicit, or implicit, there are four combinations to evaluate the four different risky levels of assumption from high to low.

Level 1: Unwarranted, implicit assumptions: the most potential for harm to the project.
Level 2: Unwarranted, explicit assumptions: potentially less risky.
Level 3: Warranted, implicit: still presents challenges to the project manager.
Level 4: Warranted, explicit assumptions: pose the least threat to projects.

Here in the Apartment Construction project, the first is to identify the distinct categories of assumptions which could help gain more comprehensive points inside the category. Assumptions could be classified into about 8 areas, such as resources, delivery, budget, etc., each category can list some relevant assumptions, and each assumption could be rated according to the method of (Kies, 1995), the details are presented in table3 as bellows.

Table 1. Assumptions and their risky level analysations

Assumption categories	**Descriptions**	**Risky level**

Resources	Construction materials are adequate and continuously supplied to complete the project.	Warranted & Explicit Level 4
	The workforce and equipment needed are available during the execution phase.	Warranted & Explicit Level 4
Delivery	Design blueprints have no defects during execution phase.	Unwarranted & Explicit Level 2
Budget	The estimated cost of the project is accurate.	Warranted & Implicit Level 3
	No additional costs incurred during the process of the project.	Unwarranted & implicit Level 1
Finances	The source of funding is stable and sufficient to complete the project.	Warranted & Implicit Level 3
Scope	The scope of what is to be delivered is comprehensive and remains unchanged once the contract is signed.	Warranted & Explicit Level 4
Schedule	The local climate will not be an abstraction to put a project behind schedule.	Warranted & Explicit Level 4
	All resources will arrive as planned within the schedule.	Unwarranted & explicit Level 2
	No safety issues occurred that caused the delay.	Unwarranted & explicit Level 2

Methodology	The project will follow Agile methodology through the execution phase.	Warranted & Explicit Level 4
	Project will follow team governance guidelines and requirements.	Warranted & Explicit Level 4
Technology	Technologies are available for design requirements.	Warranted & Explicit Level 4

3.2 Stakeholders identification

(Kaler 2002, p. 92) describes that stakeholder is individual, group, or organisation that has an interest in a project and can mobilise resources and influence the result of the project in some way.

From the research by (Mitchell, Agle & Wood 1997, p. 854), stakeholders can be identified by checking if some of the attributes they possessed as follows:

(1) the stakeholder has ability to influence the project.
(2) the stakeholder has a legitimate relationship with the project.
(3) the urgency of the stakeholder's claim against the project.

(Smith 2000, pp. 3-4) suggests that the initial step should be a brainstorming session with selected participants. All stakeholders should be evaluated initially and dropped in later phases of the analysis. It can be tough to categorise people into categories and distinguish who is genuinely internal and external to the project to acquire a more forceful knowledge of their requirements and expectations. Figure 1 demonstrates a sample of this high-level analysis.

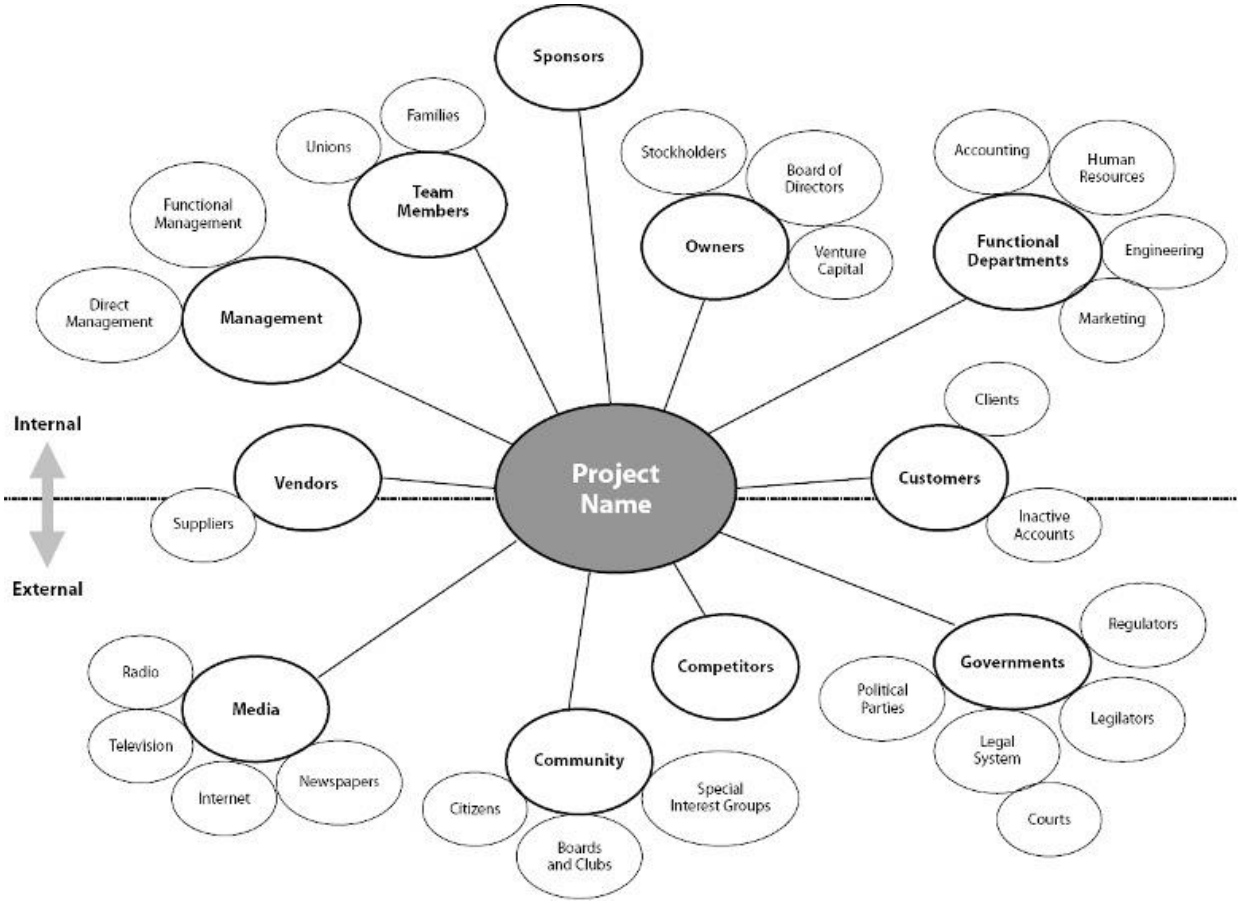

Figure 1. Sample of Stakeholder Identification (Cleland, 2004).

With the method and template mentioned above, we can identify and group the stakeholders of the selected apartment construction project. First to list all individuals, groups, or organisations that meet at least one requirement of 3 standards summarised by Mitchell, Agle & Wood, then analyse if they are internal or external by diagnosing their involvement of the project to group these stakeholders.

For example, sponsor is an individual or organisation who solicits and pays for the products or services, and they meet the first two attributes of stakeholders' identification, thus, sponsors are stakeholders. Sponsor is internal from the organisation that requested the project; therefore, they are internal stakeholders. In this construction project, the sponsor of the project is ABS Homes headquarter in Melbourne. The other stakeholders are identified and analysed in the table 6 as bellows.

Table 2. Stakeholders' identification analysis

Stakeholders	Identifications Analysis	Involvement of the project	Internal/External
Sponsor (ABS Homes - Headquarter in Melbourne)	See the example above	YES	Internal
Contractor (ABS Homes – Construction team in Melbourne)	Contractor supervises the planation and implementation of the project, who can also meet first two attributes of stakeholder's identification.	YES	
Subcontractor (Design, electric system installing company, etc.) & Supplier (Materials, workforce, and equipment suppliers)	Subcontractors and suppliers are organisations that contractors need to hire for execution of the construction work due to a lack of some service or resources of the company. They are stakeholders because the project cannot be completed without them. Two attributes can be met.	YES	
Project team (ABS apartment construction project team (PM & team members))	Project team can determine the project's success since they are the executors of the project. Two attributes can be met.	YES	
Government authorities	Local governments are stakeholders since they authorise or refuse planning applications or licenses	NO	External

(Department for infrastructure, transport, and Plans)	which could impact the project's initiation. Three attributes can be met.		
Residents (Residents live around the construction site)	Residents who live near the construction site can against the project when the construction project causes their inconvenience in life. The third attribute can be met.	NO	External
Labour unions (Australian workers' union)	Workforce' rights and interests are protected by the labour unions party, they have undirected connection with the project even though they do not participate in the project, therefore, they are identified as external stakeholders. The third attribute can be met.	NO	
End users (The audience of the apartment: single or married without children who enjoy living in an urban area)	The product of the project is to satisfy the need of the end-users. They can impact the products' design directly. Two attributes can be met.	NO	

Part 2. Project organisation

To ensure project success, the construction industry execution necessitates effective and efficient techniques. Theory and research imply that, among all the supporting tools and techniques, a correctly planned project organisation structure is a critical component for successful construction project implementation. This chapter aimed to analyse and determine a suitable project organisational structure for the apartment construction project to achieve superior project performance. Matrix organisation structures are chosen for this project, this conclusion is derived by referencing the literature review and comparing it with similar projects.

1. Impact of project structures on project execution

The goals of an organisation are realised through the structure, as it promotes the grouping of team members and the definition of their roles, as well as how they interact with one another, thereby affecting resource availability and project execution.

A study by Drucker (2004, pp.19-21) evaluates how structure design relates to organisational effectiveness. Different structures have different advantages and disadvantages. As a result, it is vital to choose a structure that works for the desired outcome. The research shows that a bad organisational structure makes reliable performance difficult. And it was possible to verify a well-structured organisation produces successful organisational performance, as it simplifies managerial challenges and has a lot of promise for increasing a company's competitiveness, innovation capabilities, and labour relations while cutting costs. Moreover, regardless of how competent individual managers are, people within the organisation must organise their efforts, so it needs to identify the project team members and build a chain of command for integrating and co-coordinating activities. As for organisations facing operational problems and concerns, many suggest that rearranging organisational structures provide possibilities for project management offices to apply new management ideas by prioritising newer modes of organisation over the old.

2. Organisation structures

There are three main types of organisational structures for projects. Each of them has its unique strengths and weaknesses.

The conventional and most widely used organisational structure is the functional organisational structure, which consists of all the departments the company needs to undertake the production or provide service (Jones et al., 1998). Marketing, engineering, administration, production, and human resources are just a few of the primary functions. This structure enables leaders to focus on a single field of expertise. The manager for each functional area reports to the managing director at the first level of the organisation, and one or more managers supervise the sub-departments for each function (Farmer, 1981). The structure of a functional organisation (San Cristóbal 2018, p.794) is shown in figure 2.

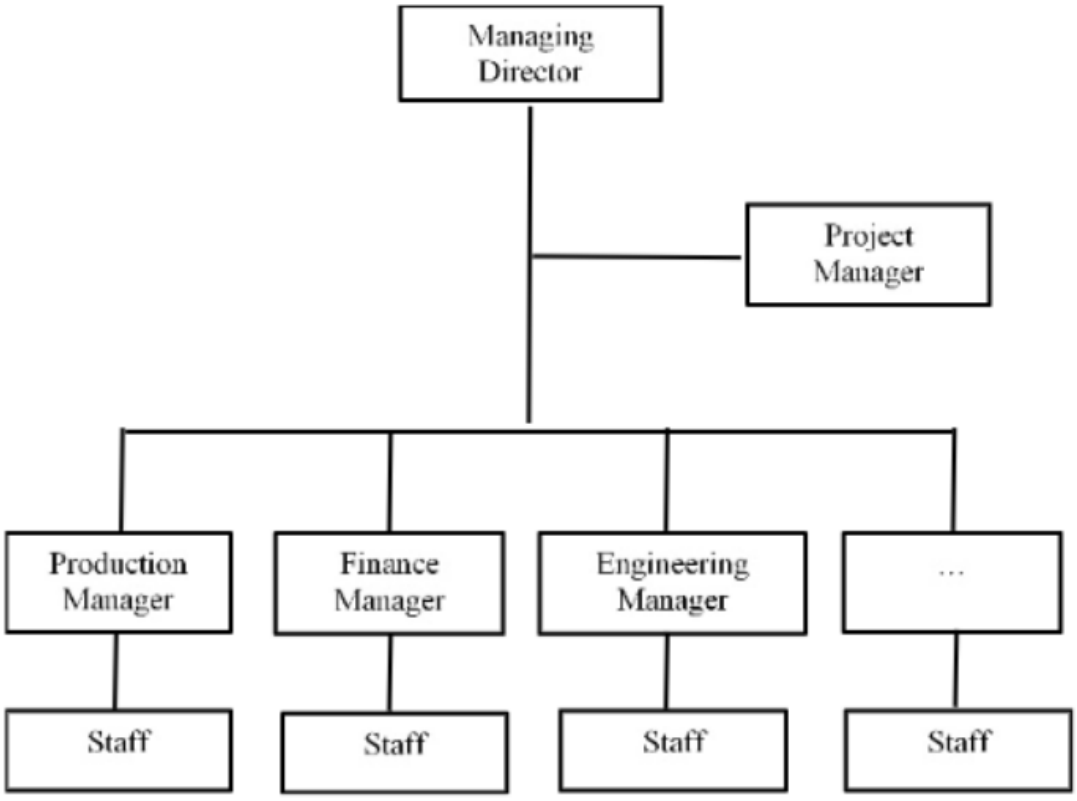

Figure 2. Functional organisational structure (San Cristóbal 2018, p.794)

Out of their functional domain, functional managers make project decisions and coordinate communication (Brewin, 2010; Badiru, 2009). If there is a project deviation involving more than one function, the chain of command will step in to resolve the issue. Project managers are involved in project management and monitoring the progress of the project with staff functions in the functional organisational structure (Farmer, 1981).

Projectised organisational structures are built around projects to maximise project management efficiency. The project manager is given entire responsibility for the project and additional resources in this organisational structure to meet the project's objectives (Farmer, 1981). The project manager who reports to the sponsor or senior manager has the most power in this organisational structure. The entire team contributes to the project's success (Maley, 2012), and team members are typically co-located to maximise communication. Within an organisation, there may be some functional units, but those units simply serve as support for the project manager and have no control over the project manager. Figure 3 gives an example of the typical projectised structure.

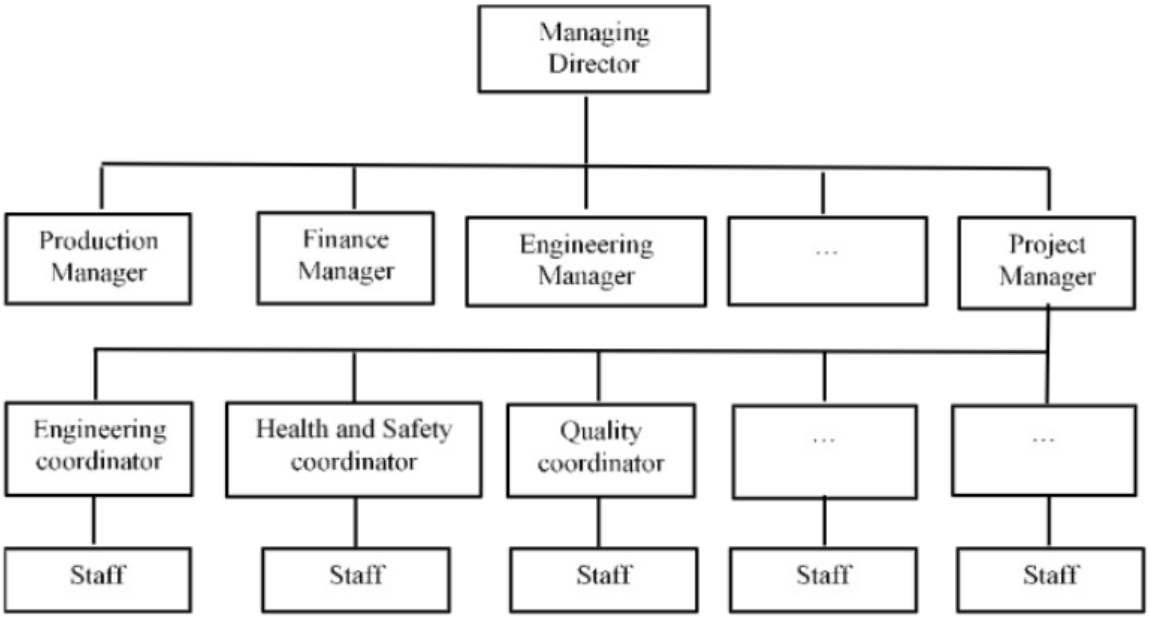

Figure 3. Projectised organisational structure (San Cristóbal 2018, p.795)

The entire team contributes to the project's success (Maley, 2012), and team members are typically co-located to maximise communication. Within an organisation, there may be some functional units, but

those units simply serve as support for the project manager and have no control over the project manager.

Matrix organisational structure combines the characteristics and advantages of functional and projectised organisation structures. The matrix organisational structure allows for the assignment of a single resource to several activities or products (Afuah, 2003). Made it feasible to complete large projects with multiple managerial responsibilities and obligations, and it can complete most activities without the projectised structure's cost disadvantages. Although employees are assigned to a functional department, they can nevertheless collaborate with product managers. Product managers rely on function managers to appraise employees. As a result, function managers are accountable for their staff and provide relevant data (Shell, 2002). It aims to satisfy a company's many operational needs and improve its ability to respond to various problems and environmental changes. As a result, this structure is appropriate for organisations with many divisions, as it allows for a great amount of organisational flexibility. Figure 4 represents the structure of matrix organisations.

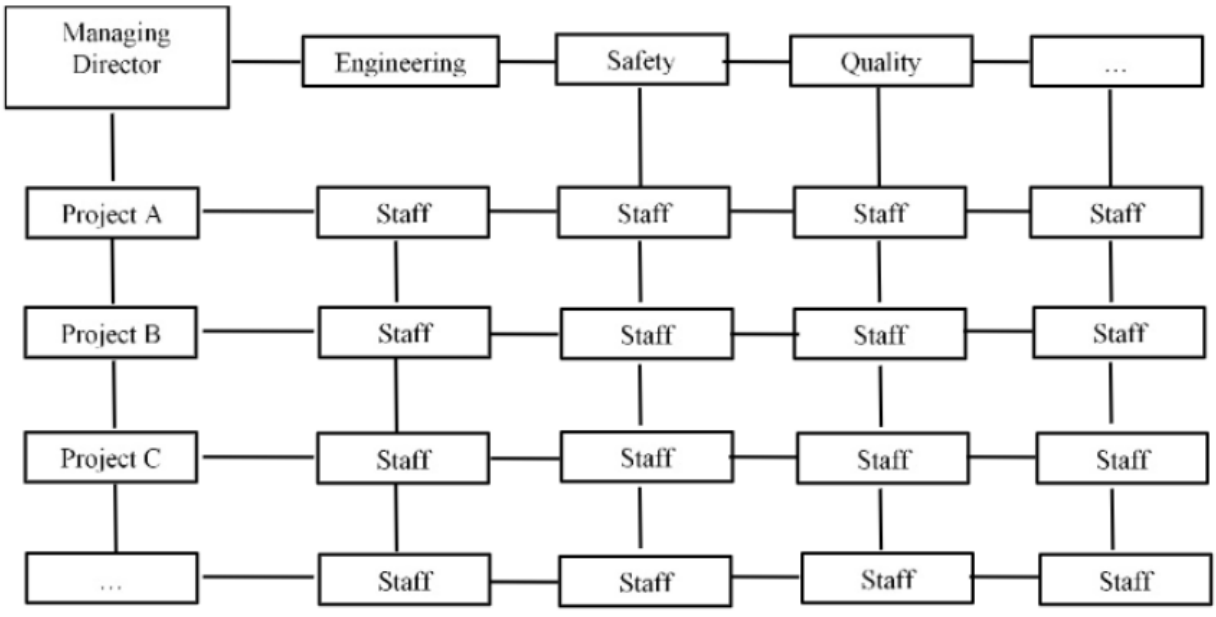

Figure 4. Matrix organisational structure (San Cristóbal 2018, p.795)

3. Organisation structure selection

3.1 Factors to be considered

Senior (1997, pp.7-9) states the most appropriate sort of structure is determined by the characteristics of the organisation. When developing an organisational structure, vital factors include the organisation's environment, sise, and human resources.

The organisational environment is the setting in which a company functions, it must be constructed in such a way that the organisation can effectively respond to the needs and changes while remaining competitive. When the sise of an organisational exceeds a certain scale, functional structure inadequate for handling this kind of complexity may lose the big picture of the project. Human resources are undoubtedly a company's most significant asset. All parties must work together as a team for a project to be completed successfully, so managers must recognise the type of workforce they have and build an appropriate organisational structure, otherwise, it may result in high staff turnover.
Anumba's research (2002) explored three construction industry companies about their currently in-use structures. All of them are still using traditional functional structures, with which external project team is lack of awareness of the internal workings, contribute to fragmentation of a healthy organisational environment. Because of the highly demanding, and unpredictable building environment, the importance of organisational structures cannot be overstated. The team leader should be neutral and interact naturally with all or most disciplines (Deasley and Lettice, 1997) and more flexible structures are required.

The organisational environment is the setting in which a company functions, it must be constructed in such a way that the organisation can effectively respond to the needs and changes while remaining competitive. The strategy and goals of the company Structure and strategy must work in tandem for an organisation to achieve its goals. The structure is an essential instrument for successfully implementing the strategy and complements it. Technology is defined as a set of skills, knowledge, tools, machinery, computers, and equipment utilised in the design, manufacturing, and distribution of goods and services (Jones et al., 1998). Organisational expansion often leads to the establishment of new departments and levels, functional structure inadequate for handling this kind of complexity and loss may big picture of the project. Therefore, functional structure would be no longer suitable for large, multidisciplinary organisations. Human resources are undoubtedly a company's most significant asset. A construction project necessitates teamwork; therefore, it is critical for all members involved to work together. For a project to be completed successfully, all parties must work together as a team. Managers must

therefore recognise the type of workforce they have and build an appropriate organisational structure, otherwise, employees may get disillusioned, resulting in high staff turnover, which can be costly to the company.

3.2 Case studies

Bresnen et. al looked at two case studies in project-based construction organisations in the United Kingdom. According to the study, the functional structure has a high potential to become a constraint in project innovation as the participants in this kind of structure tend to replicate existing project management practices.

In Anumba's research (2002, pp.266-267), case studies about currently in-use structures of three companies in the construction industry were done. There were two consulting businesses and one contracting firm investigated. All of them are still using traditional functional structures. External project team members' lack of awareness of the internal project structure, as well as the practice of having senior managers collaborate with external parties instead of project staff, are organisational issues that contribute to fragmentation and impede the development of a healthy organisational environment. Because of the highly unstable, demanding, and unpredictable building environment, flexible structures are required. The importance of team structures at the project level cannot be overstated. Instead of full-time co-located teams, part-time, dispersed teams comprised of all key factors, including the client and suppliers, are advocated. The latter may not be feasible for the industry because some members' input will be minimal at various stages of the project. Because of the competitive character of the industry, competitive tendering, labour division, and subcontracting, the team leader should be a neutral party who naturally interfaces with all or most of the disciplines (Deasley and Lettice, 1997).

3.3 Summary and analysis

According to the case studies, for the 20 Storey-apartment construction projects, a matrix organisational structure is appropriate. because it provides greater flexibility and improved communication based on the activities conducted in the Organisation. A construction project needs to execute a variety of projects and share the functional resources between key project participants. Conflicts or disagreements are more often due to uncertainty, misunderstanding, or misinterpretation. When conflicts arose, the standard technique for resolving them was an open exchange of information about the conflict or problem, as well as working out differences to produce an acceptable solution. The nature of the construction project requires all works to be interconnected and frequent interactions

between participants to resolve issues or expected difficulties before conflicts develop, allowing parties to nurture and sustain their relationships. A matrix structure for construction projects might help the project management office to bridge the gap between different organisational systems and manage the collaborative and individualised nature of construction industry services and support.

Part 3. Stakeholder management plan

1. Importance of stakeholder management

Stakeholder management is crucial to the success of every project. The most common characteristics of a failed project are the unmet expectations of stakeholders, lack of communication and engagement, or poor planning. Proper stakeholder management can lead to a clear path with less potential obstacles by maintaining the satisfaction of the mentioned parties and obtaining their resources, experience, and support. However, certain parties may have concerns that are influenced negatively or positively by the project, which must be controlled early in the process. To ensure that the project satisfies the needs of all stakeholders, early recognition and engagement are essential. Therefore, detailed research to recognise, categorise, highlight, and analyse the stakeholders must be done to create strategies to satisfy stakeholders. The current stakeholder management plan aims to identify and classify the internal and external stakeholders by examining their influence on the project in terms of power or interest in developing tactic instruments or techniques. Furthermore, the plan will also enable the project team to obtain feedback to improve the plantation and push the project toward a less conflicting path.

2. Identification criteria

A brainstorming meeting was held to establish stakeholder groups. stakeholders will be classified under the criterial of power and interest to make straightforward the planation on interaction and administration.

3. Stakeholder analysis

According to the established criteria, the stakeholders identified will be demonstrated in the following table 7.

Table 3. Stakeholders Power & Interest analysis

Internal/external	Stakeholders	Power / Interest Analysis
Internal	Sponsor (ABS Homes - Headquarter in Melbourne)	They are positive stakeholders once the project succeeds; otherwise, they could be a negative stakeholder if the process or the result of the project does not match expectations. Sponsors possess the highest level of attention and power in the project while these are the primary role that owns the project and pays for it.
	Contractor (ABS Homes – Construction team in Melbourne)	This stakeholder has a significant interest in the project because the mentioned party would face the result of the project, whether success or failure, and the direct connection with the project itself. Additionally, this group has high power in the project since they are the ones who execute the project, although their ability would be less than the Sponsor possess.
	ABS Homes – Construction support	These roles function as positive stakeholders because they positively influence the project's success by providing their knowledge and experience, which makes their role indispensable in the project. The project result impacts the party mentioned directly in terms of capability, responsibility, and reputation, which hold them to maintain a high interest in the project. However, the role has less power to determine the project than the sponsor or main contractor.

	Subcontractors & Suppliers	This role usually possesses minimal impact and power on the project because they are employed to carry out the job. They can be easily substituted if a conflict occurs with the main contractor. However, their interest maintains a prominent level whether the project result is positive or negative since their primary purpose is to do business with the contractor.
	ABS Homes - Project team	This role is keenly interested in the project's success since it reflects their talents. They as well possess a considerable amount of power according to their position level. Naturally, the project manager and team leader have the highest power and interest within the project team.
External	Government authorities & Professional bodies	Local governments or Professional bodies are likely to significantly impact a building project since they authorise or refuse planning applications or licenses.
	Residents	This party might be interested in the project but have a minimal impact on the project. The effect will only increase according to the population of the residents that are against the project.
	Labour unions & Activist and lobby groups	Their impact and interest in the task rely on the sise of the groups mentioned.
	Local business owners	Local business owners usually demonstrate high interest in development projects even if they do not have much power over the project.

	End users	These users have the highest impact on the project because the Sponsor initiates the project request to satisfy the need of the end-users. Market research will be conducted to obtain their attention and desire. Their level of interest depends on whether they are pre-paid end users.

Base on the analysis demonstrate in table 7, the power and interest of the stakeholders will be determinate at the scale from 1 to 5 shown in table 8.

Table 4. Scale determination of Power & Interest

Key	Stakeholders	Power (Scale 1 to 5)	Interest (Scale 1 to 5)
A	Sponsor	5	5
B	Contractor	4	5
D	Subcontractors & Suppliers	2	3
E	Project team	4	5
F	Government authorities & Professional bodies	5	3
G	Residents	1	3
H	Labour unions	2	2
J	End users	3	2

The following Figure 5 illustrates the data within table 8 graphically.

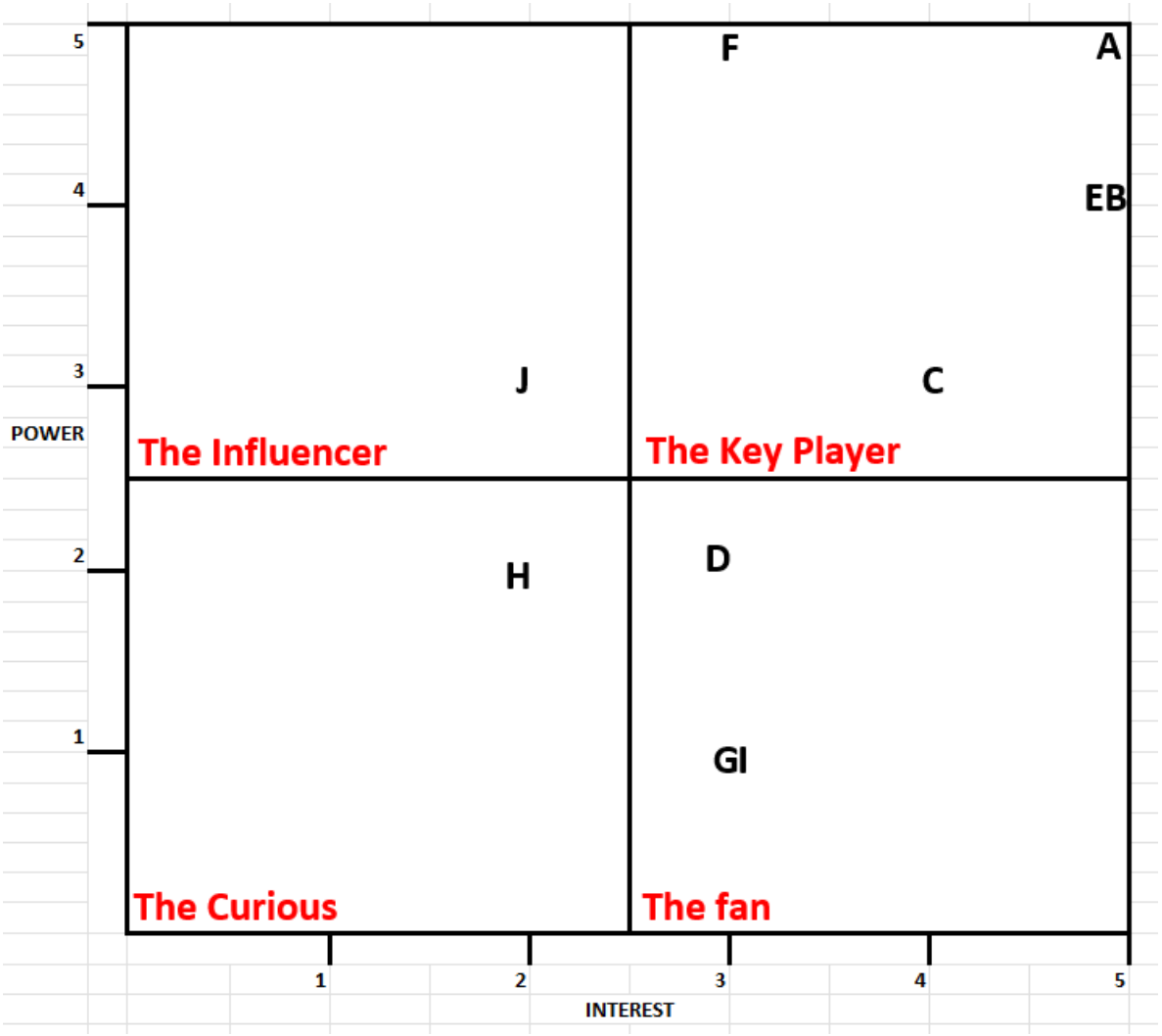

Figure 5. Power & Interest Matrix

As shown in the Power/Interest Matrix, four types of stakeholders are classified as:

1) The Key players (A, B, C, E, and F) who have the most impact and interest in the project must be satisfied.

2) The Influencer (J) who shows less interest but contains the power to impact the project; therefore, information must be updated and notified according to its demand.

3) The Fan (D, G, and I) who possess a certain level of interest due to the benefit provided to the project itself but have less power over the decision of the project; therefore, proper communication is needed to collaborate.

4) The Curious (H), whose power and interest depend on their group's sise. If regulations are well followed, no significant issues can occur, and information may or may not be informed.

4. Engagement strategy for stakeholders

Table 5. Stakeholder engagement strategies table

Key	Quadrant	Effort	Engagement Strategy	Tools & Technology
A, B, C, E, and F	The Key players	Maximum	The communication plan for essential stakeholders, who expect us to put up our best effort to keep them happy, will be managed in numerous ways: 1.Apply interpersonal skills such as trust building, networking, body language, active listener, etc. 2.Structured communication, such as a meeting with a defined agenda and declarations on issues in sequence, will create expectations. 3.All requests from stakeholders must be heard and addressed to ensure stakeholder satisfaction. 4.Information and status must be updated and reported regularly; stakeholders will be kept informed by periodically asking for their input and comments. 5.Decision making based on multicriterial decision, analysis and voting to avoid conflict.	Furthermore, a reporting platform called Asana will be utilised for stakeholders to see the project from many perspectives, and data-driven reports will be created with the technology mentioned above to track and demonstrate performance and progress. Given that specific stakeholders may be on a tight timetable, this tool enables them to identify and comprehend problems in less time. Meetings, surveys, emails, and focus groups will all be used as part of the approach.
J	The Influencer	Medium	Websites and podcasts will be used to research the stakeholders	Technology such as to-do lists, and Microsoft office

			mentioned to fulfill the standards and regulations. The needed procedure will demand an average amount of work, and the indicated party must be updated, supplied, and authorised. Noted that everything must be legal, and regulations and guidelines are well followed.	products will be used for paperwork and process. At least one person would be responsible for following up with the indicated stakeholder.
D, G, and I	The Fan	Medium	Proper support or services must be provided on time according to a precise schedule, and collaborative communication and transmission must be programmed with anticipation to avoid any adverse event.	The fans-type stakeholders will be partially involved in our Asana platform to keep track of the project performance. Meetings, emails, and focus groups will be applied constantly as well.
H	The Curious	Minimum	Maintain information updated periodically.	Information will be updated via medias.

Part 4. Communication management plan

1. Importance of communication management

The communication management plan assists all stakeholders in the project with the information necessary to carry out their responsibilities throughout the project. Performing project communication management-related activities before and during the project have a very significant impact on the success of the project.

Project communication management mainly consists of two parts: 1. Develop strategies to ensure effective information exchange among stakeholders in project activities. 2. The strategy is implemented based on the necessary actions (Project Management Institute 2017, p. 359). The communication process in the project is generally: 1. Before the project starts: plan communication. 2. During the execution phase of the project: Manage communication. 3. The monitoring & control part of the project exists: monitoring communication. There are indirect or direct effects between the three types of communication, and all play an essential role. The communication management process is shown in the following figure:

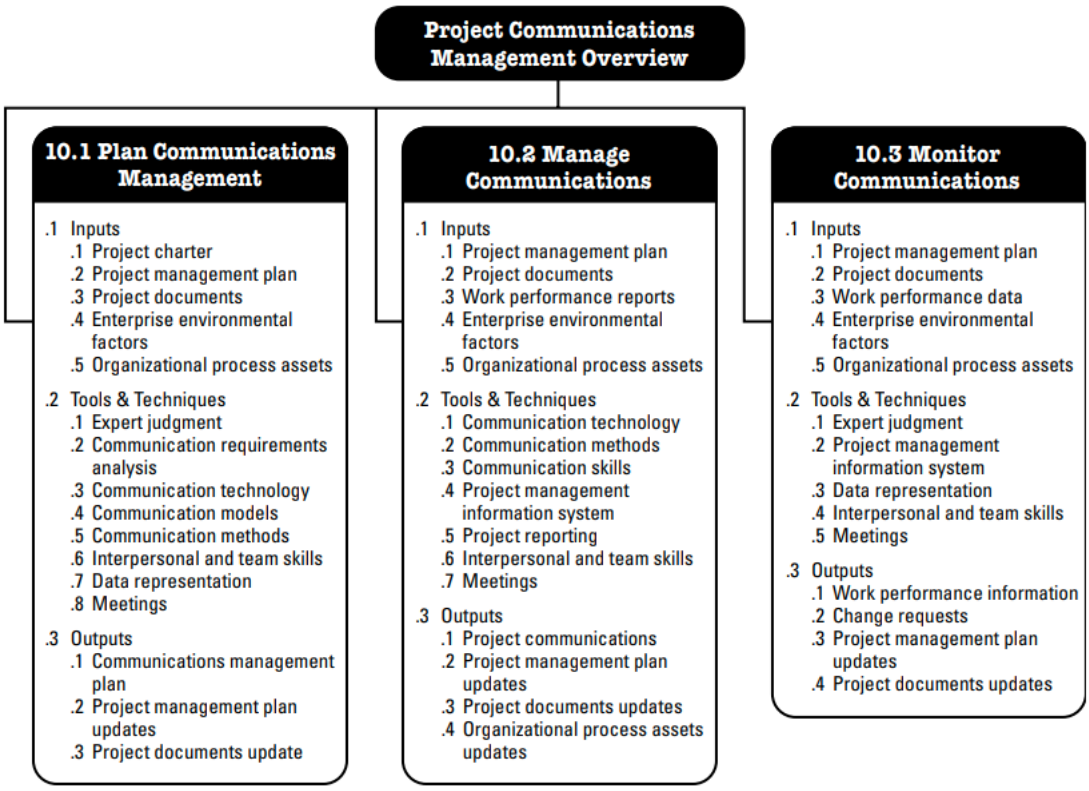

Figure 6. The process of project communication (Project Management Institute 2017, p. 360)

The figure shows the inputs, essential technical tools, and expected outputs of planning communications, managing communications, and monitoring communications processes. However, in the actual implementation of the project, multiple types of communication may overlap and interact (Project Management Institute 2017, p. 359), and communication efficiency should be more worthy of attention.

The communication plan determines how the project communicates most effectively with each stakeholder. It contains the communication objectives, audience, content, communication methods,

frequency and expected results. Stakeholders' expectations and influence on the project are shown in the communication plan. As the project progresses, the communication plan also offers various stakeholders the project's real-time status and the activities' assignment.

2. Communication objective

Proactive communication by the project manager is crucial for the project and all stakeholders. The need for communication with stakeholders includes:

1. Target your audience accurately

2. in the correct format

3. The content of the information is accurate and brief, avoiding unnecessary content (the expression of content information needs to be based on communication skills).

4. Make sure the content contains all the necessary information

5. Solve problems promptly.

Project managers can manage stakeholder expectations through communication,

1. Track project progress and ongoing project content.

2. Report on project content and quality.

3. Show project-related activity assignments.

A project contains multiple types of stakeholders (Internal stakeholders), and different stakeholders have different powers/interests in the project. How to communicate with different kinds of stakeholders most effectively should be a problem that project managers should consider when doing a communication management plan.

Divide the target audience of communication into the following figure:

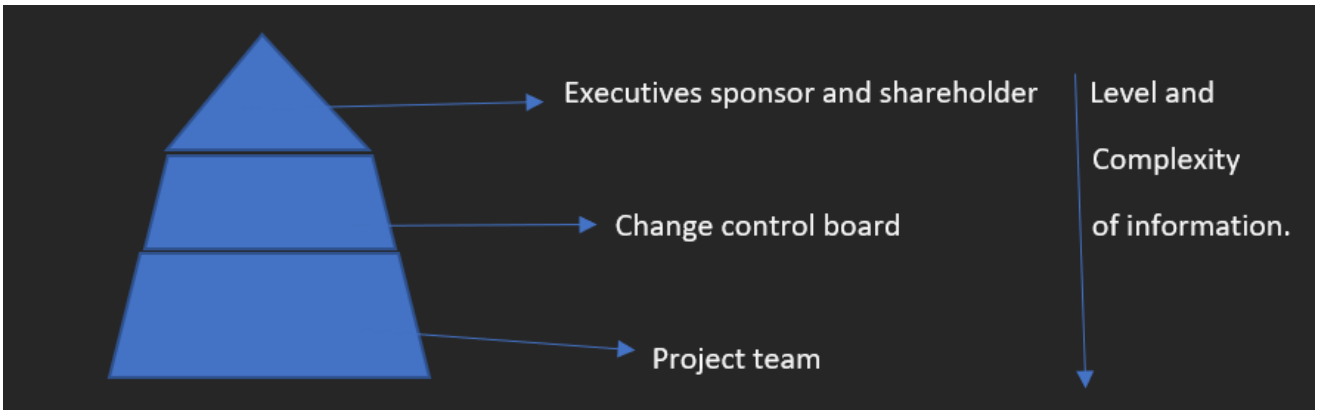

Figure 7. The communication process of internal stakeholders (Cited by Project Management Videos 2012)

Figure 7 shows the structure of effective communication among internal stakeholders, and divides all stakeholders into three parts:

1. Executives sponsors and shareholders are the top groups in a project with the smallest number of people.
2. The number of people on the change control board will be more significant, and they will represent different organisations (internal or external)
3. The project team occupies the most significant proportion and are members of different types.

The crowd of executives sponsors and shareholders don't need too much information, and they are more concerned about the project's progress and whether the project is on track. The people on the change control board will need more information to make decisions (solving problems or dealing with change requests). The project team needs the most information and will complete the project-related deliverables. (Project Management Videos 2012)

The essential input for planning communication is the stakeholder matrix (referred to the stakeholder management plan) and consider improving communication efficiency. Confirm that correct and accurate information is communicated to different target groups. Necessary input is:

- Project chapter
- Project management plan (stakeholder management plan)
- Organisational management plan

3. Communication technologies

Communication technology is an effective means for realising information exchange among stakeholders. The methods of transmitting information between different stakeholders are different (Project Management Institute 2017, p. 370), and the efficiency of other processes will also vary greatly. In addition to stakeholders' differences, the information requires different communication technologies. It can be roughly classified as 1. Urgency. 2. Technical. 3. Sensitivity. (Project Management Institute 2017, pp. 370-371)

In this project, the communication techniques that can be applied are (Include but not all):

- Email
- Face-to-face meetings between various stakeholders (Formal and informal)
- Remote meetings between various stakeholders (Formal and informal)
- Phone
- Documents
- …

Geographical and regional differences may be factors to consider (based on table 7. Stakeholders Power & Interest analysis)

The content should contain different proprietary descriptions or sensitive information depending on the stakeholder. If the information range includes specialised terminology, a glossary of commonly used terms is required for stakeholders without a relevant professional background.

- The communication technologies above are supported by (Include but not all):
- The project status report
- The project process report
- Constructor status report
- Project quality report
- …

Communication frequency may also be a factor affecting communication management. Infrequent communication may result in stakeholders being unfamiliar or unfamiliar with the project. This can lead to project delays or even project failure. However, too high a frequency of communication may cause stakeholders to lose focus on the project (Abudi 2019, p. 2). In this project, since ABS Home is headquartered in Melbourne, the project address is in the Adelaide area. Communication may rely on

emails or other online tools, and the project manager should design specific communication management based on the situation.

Communication is often necessary but also challenging. For project managers, one of the goals is how to communicate with stakeholders. As mentioned earlier, for stakeholders, the information they need or the goals to focus on may appear different due to belonging to various stakeholder groups. Further, for the same stakeholder group, each person expects to absorb information differently; some people want more intuitive expressions (pictures or charts), and others may wish to obtain information through speeches (Abudi 2019, p. 1). Communication skills will be considered a tool to address these issues.

Vijaya (2018) Several key points that should be followed in communication skills should be:

1. Listen
2. Respect (religious beliefs, personal background, etc.)
3. Friendly (emotional state, expression, etc.)
4. high emotional intelligence and perceived credibility.

4. Monitor communication

This step is often used to define the flow of information as part of ensuring that project content meets stakeholder needs, allowing stakeholders to participate (Project Management Institute 2017, p. 388).

Through communication, project managers collect feedback from different stakeholders. For internal stakeholders, the source of this feedback may be project reports, emails, presentations, or phone calls. For external stakeholders, feedback may come from questionnaires, etc. Collecting and reviewing data is used to describe changes in the matrix of stakeholders (Project Management Institute 2017, p. 389). To a certain extent, relevant feedback may also improve communication efficiency.

This process will continue throughout the project. The primary function is shown in the figure 8.

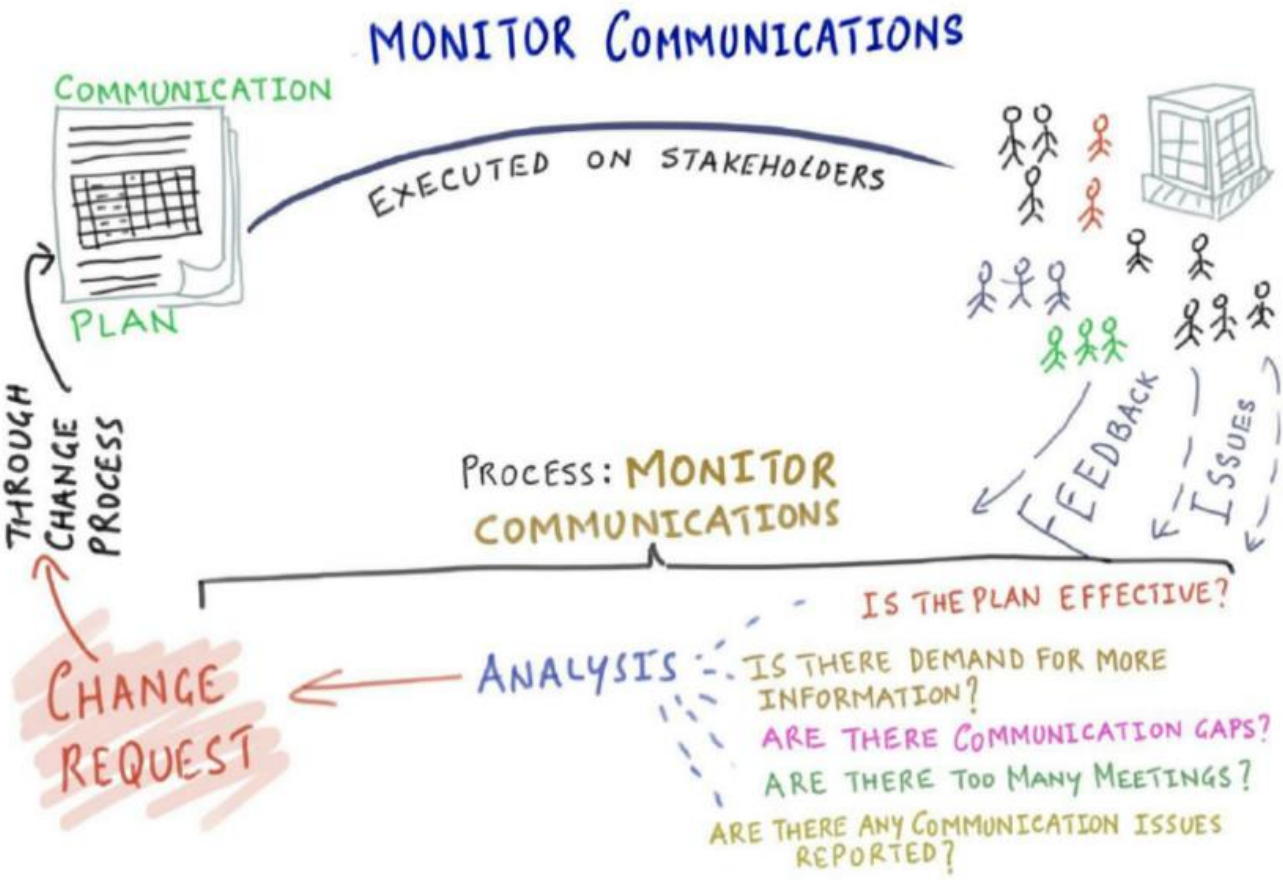

Figure 8. Monitor communications (Maneesh Vijaya & Project Management Institute 2018)

The above pictures show the process and implementation of monitoring communication in more detail. Project managers continuously collect feedback from stakeholders and identify feedback through analysis. Valuable feedback will be incorporated into the communication plan as a change request throughout the change process. If project-related issues arise during the feedback process, the project manager can take timely measures to prevent the situation from escalating. In this project, since both ABS Home and the technical team are in Melbourne, the primary communication method may be based on online communication. Project managers should pay close attention to documents, e-mails, and concurrent meeting minutes. Set up enough remote meetings for different stakeholders to communicate with each other.

Conclusion

A complete project management plan promotes project feasibility and success. The project charter, project organisation, stakeholder management, and communication management form part of the project management plan, and each affects the project management plan. The project charter presents the overall project objectives, rates, and categorises potential risks that may arise during the project and impacts on the project's stakeholders. Project organisation is to identify the structure of the project team and management. Through past case studies, the matrix organisation structure is the most suitable for this project. Stakeholder management is identifying all the people involved in the project, using an exciting matrix to classify stakeholders, and highlighting the expectations and views of different stakeholders for the project. Communication management affects all project stakeholders, and its focus is the efficiency of communication between different stakeholders during the project process and the impact on the project. Due to the different regions, online communication may be more worth looking forward to in this project. However, communication efficiency and quality should be given more attention.

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Appendix 1 Group contract

TEAM CONTRACT

The parties make this Agreement on 3/5/2022. This Agreement sets out the teamwork expectations between the following parties: Lin Jia Yi Lin Cen(a1807559), Qingyan Yang(a1865304), Junru Zhang(a1674618), and Jingyu Zhao(a1832765) as Group 26.

This contract represents a binding agreement that will apply throughout the duration of the course.

[1] PURPOSE OF THE AGREEMENT

[1.1] This contract is designed to provide each team with the opportunity to discuss expectations of themselves and each other for each of the Design Projects offered in the course.

[1.2] The answers contained in this contract are binding and will be referred to by the Course Coordinator in the eventuality of any disputes amongst group members.

[1.3] The submission of a completed and signed contract by the Due Date[1] will lead to an automatic 2% mark for the course and an extension of 7 days for Assignment 2.

[2] WORKLOAD

[2.1] Defining equal contribution. The group is composed of four students. According to the requirements, the final delivery is maximum of 6000 words, which means each person should contribute 1500 words or the equivalent workload.

[2.2] Workload expectation. Regarding the initial discussion where all team members agreed that:

- Junru Zhang is responsible for part D (Communication management plan), the project's introduction and conclusion sections consist of around 1500 words.
- Lin Jia Yi and Qingyan Yang are responsible for parts A (Project charter).
- Jingyu Zhao is responsible for parts B (Project Organization) and C (stakeholder management plan).

[3] PROJECT MANAGEMENT

[3.1] Purpose. Throughout the examination, project management strategies should be used. The team members must read and comprehend all necessary readings for all course modules.

[3.2] Project management approach. The responsibilities fall on all members by applying the agile methodology to ensure quality, communication, and commitment.

Several tools would be used to facilitate project management activities:

- OneDrive to store and simultaneously share all documents and data.
- Outlook with university email accounts, WeChat, Zoom and meetings to maintain communication and collaboration.
- Microsoft Office 365 for the complete creation of documents.

[3.3] Meetings. Based on the weekly meeting schedule, in-person or online cooperation and discussion will occur. The responsibilities of all the agenda, meeting scheduling, publishing, and sending out the plan, and documenting meeting minutes belong to all team members. The schedule is pre-defined as every Thursday after 2 p.m. but is also flexible in emergencies. However, each team member must prepare by explaining the goal and objectives and disseminating supporting material before attending meetings according to their responsibilities.

[1] Please refer to MyUni announcements for the due date for submitting this contract.

TEAM CONTRACT

[3.4] Communication. A free, open, and appropriate expression of ideas and sentiments are mandatory for good cooperation. Each member actively listens to the other members and then delivers helpful, non-judgmental feedback after hearing what they have to say. Members are responsible for conveying their opinions, ideas, and concerns, among other things. Respectful communication (verbal and nonverbal) contributes to team cohesiveness in the face of cultural and personal diversity.

For better adapting any clarification or debate, university email, in-person or online meetings, and social application WeChat through a group titled "Project 2 Team Group" are used as primary channels for group communication.

[3.5] Record keeping. All project materials must be uploaded to the "Project 2 Team File" in OneDrive, which team members may only access using the University of Adelaide-provided email addresses. In addition, team members must record meeting minutes and share them with the WeChat Group designated to them.

[3.6] Quality control. Members of the team must contribute to the fullest extent possible. Members must take the initiative to participate in collective duties, particularly in areas where they have a competitive advantage. Those with more skill may be required to guide, coach, or critique those who are suffering and those who are having difficulties should make it known when they want clarification or support.

Members of teams must make a deliberate effort to be available for meetings for them to function well. Wishing for the group's success will help it succeed; resentful contributions, on the other hand, will sabotage it.

Members of the team will report their successes, and all achievements should be assessed, and comments provided by all team members during their weekly meetings to develop. After receiving comments, the quality level must be satisfied. Otherwise, the person in charge must seek assistance to develop.

[3.7] Scope/workload changes. The deadline is June 5, and the task is expected to be completed by May 25, with 10 days set aside for emergencies such as changes. All changes must be announced, and a preferential voting system will be used to make the final decision.

[4] ADDRESSING HYPOTHETICAL TEAM SCENARIOS

[4.1] Purpose: Each of the following scenarios represent realistic situations that can often lead to disputes amongst team members.

[4.2] Unequal expectations of quality. If there are any differences in quality expectations, a group discussion will be place, which can be started by any team member. A preferential voting technique will be utilised to determine the final choice when feedback has been received.

[4.3] Difficulty attending team meetings and other team sessions. All team members must attend an in-person meeting every Thursday after 2 p.m... If an emergency arises or one of the members is unable to attend in-person meetings, online sessions via Zoom will be held. In the event of an absence, notification through email is essential; nevertheless, absences will only be justified in the event of illness, covid restriction, or force majeure. If a team member has more than three unjustifiable absences, the other team members will vote on whether to continue or end the collaboration with the individual mentioned.

TEAM CONTRACT

[4.4] Late contributions. To avoid missing deadlines, team members must commit to 10 days of preparation prior to the start of cooperation.

If a team member consistently commits to late contributions, and requests are omitted when other team members object. The other team members have the alternative of using a preferential voting mechanism to decide whether to continue working with the individual in question and alert the Professors.

If a team member commits late contribution due to quality standard unmet, and feedback are omitted when other team members object. The other team members have the alternative of using a preferential voting mechanism to decide whether to continue working with the individual in question and alert the Professors. Otherwise, if a team member makes a late contribution owing to a heavy workload or challenges encountered due to a lack of knowledge or expertise, and the person in question seeks assistance from the team, team members shall aid to the maximum degree practicable.

[4.5] Views of a team member not heard. Within the team, there may be a variety of approaches to achieving success. As a result, members must be willing to compromise and understand that it is sometimes preferable to give in than to be "correct." Members must be able to distinguish between their personal demands and those of the group, placing the needs of the team ahead of their own.

Section 3.4 of the current contract must be utilised as the first solution from the start of a dispute. A preferential voting method will be implemented if the first solution fails.

When view, feedback or instruction omitted or rejected after an effort of group communication. The other team members have the alternative of using a preferential voting mechanism to decide whether to continue working with the individual in question and alert the Professors.

[4.6] Plagiarism. The Academic Integrity Policy of The University of Adelaide serves as the basis for the plagiarism policy standard of the present contract. Furthermore, all team members must adhere to the plagiarism policy, with a similarity rating in Turnitin of less than 20%.

[5] DISPUTE RESOLUTION

[5.1] Dispute avoidance and minor disputes. Section 3.4 of the current contract must be utilised as the first solution from the start of a dispute.

[5.2] Dispute escalation. If the initial solution fails, a preferential voting procedure will be used. The final decision on whether to continue working with the individual in issue and notify the professors will be made.

TEAM CONTRACT

[6] OTHER ITEMS. We acknowledge the following:

Item	Initials of each team member
[6.1] The answers contained in this contract are binding on each of the team members and will be referred to by the Course Coordinator in the eventuality of any disputes amongst team members.	JZ LL QY
[6.2] The expectation is that each student equally contributes to the teamwork components of the course. In the eventuality that this does not occur, students may recommend uneven assessment across team members as part of the Project Contribution document; however, determination of group mark allocations will be at the discretion of the Course Coordinator.	JZ LL QY
[6.3] Where there is evidence that a group member misrepresents their contribution, or the contribution of other group members, to each assignment, the Academic Honesty Policy may be applied (see Course Profile for further details).	JZ LL QY
[6.4] Plagiarism is taken extremely seriously by the University of Adelaide, and current and previous year assignments have been recorded in the University's plagiarism detection software (see Course Profile for further details).	JZ LL QY

SIGNATURES. Each team member is expected to have contributed to this agreement. If one or several group members cannot come to an agreement, then the team should discuss this with the course coordinator at the earliest possible opportunity.

Team Member 1

Signature: Lin Cen

Name: Lin Cen Lin Jia Yi

Date: 03/05/2022

Team Member 2

Signature: JRZ

Name: Junru Zhang

Date: 03/05/2022

Team Member 3

Signature: Jingyu Zhao

Name: Jingyu Zhao

Date: 03/05/2022

Team Member 4

Signature: Qingyan Yang

Name: Qingyan Yang

Date: 03/05/2022

Figure 9. Signed Team Contract

Appendix 2 Milestones of assignment 2

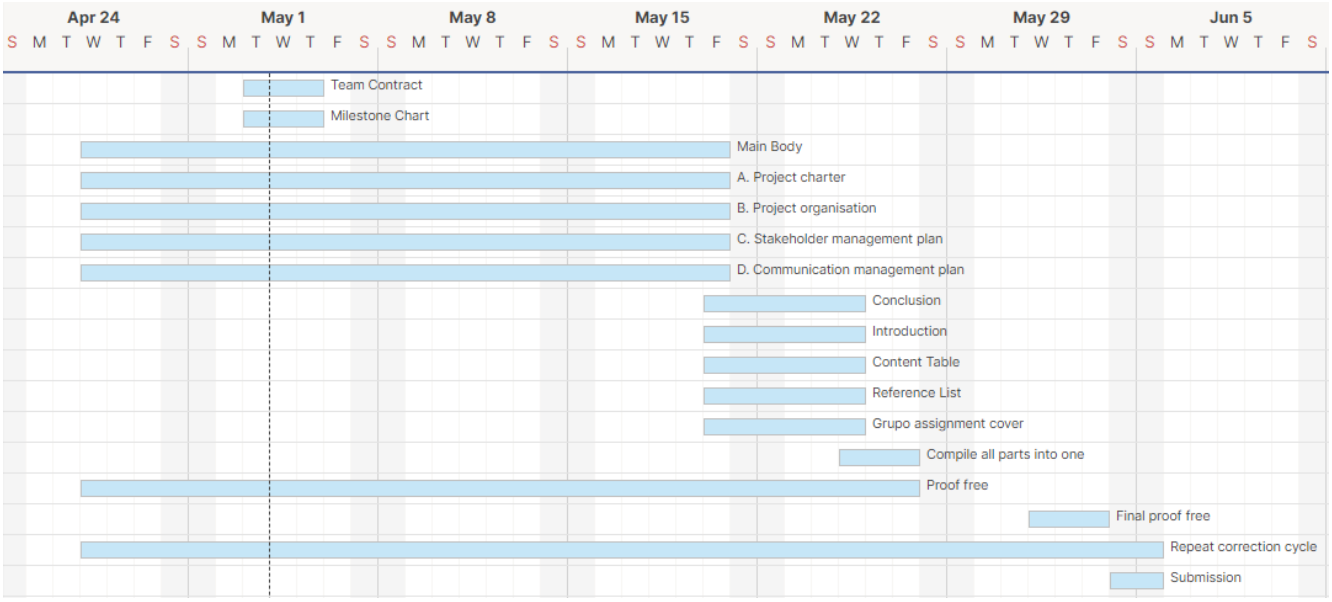

Figure 10. Milestones