

# Overview of project management according to PMBOK® guide 5th edition

CAPM®, PMBOK®, PMI® a PMP® are registered trademarks of the Project Management Institute, Inc.

Text in normal font correspond to PMBOK® guide definitions

*My comments are added in Italics*

**This material is intended to help students preparing for PMI - PMP® or CAPM® certification memorize better key terms and processes of PMBOK® guide 5th edition.**

Overview was prepared by Petr Janiš, PMP

[petr@petrjanis.cz](mailto:petr@petrjanis.cz)

Feel free to use this material, but please do not change it or do not use pictures from this material.

Please let me know if you have any comments.

## Key terms

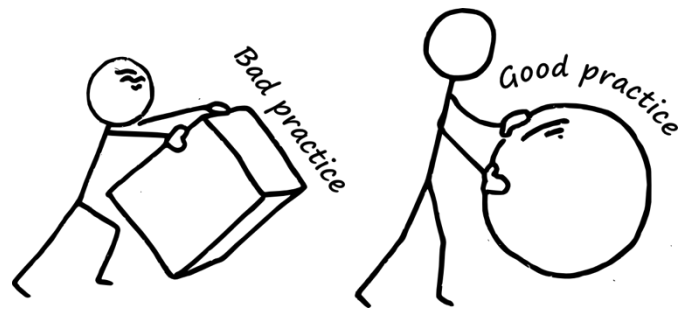
*Before you start you need to get familiar with terminology.  
Number before the title correspond to chapter in PMBOK.*

### 1.1 PMBOK® Guide

Recognized as Good Practice

*There is general agreement that applying these practices will increase your chance of success.*

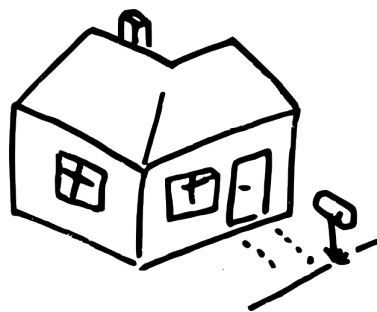
*-> Do you know any good practice?*



### 1.2 Project

A project is a temporary endeavour undertaken to create a unique product, service or result.  
*Project is relatively isolated effort with predetermined goal, scope, time and budget.*

*-> What is the product of your project?*

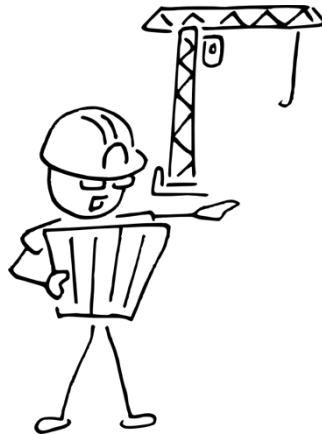


### 1.3 Project management

Project management is the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements.

*Management means that you are not supposed to build the house, but use your skills to organize others.*

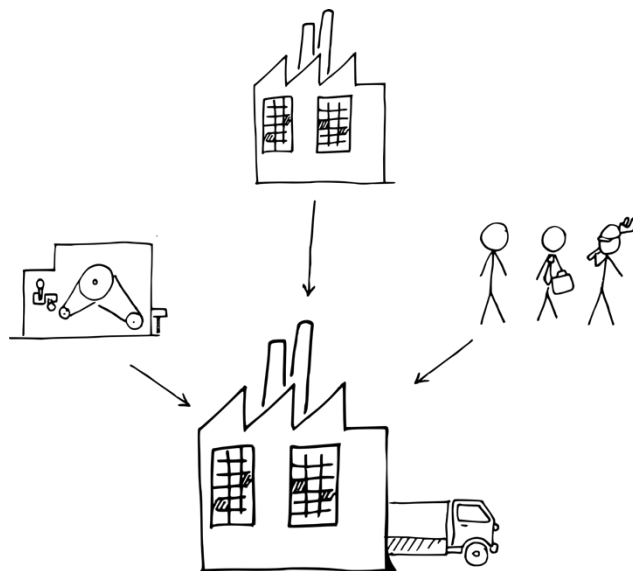
-> *What are the typical project management skills?*



#### 1.4 Program

A program is a group of related projects managed in a coordinated way to obtain benefits and control not available from managing them individually.

*Program is bigger and is successful if it achieves the objective - start of new production factory. It consists of projects, such as construction of the factory, building of machinery and hiring of staff.*



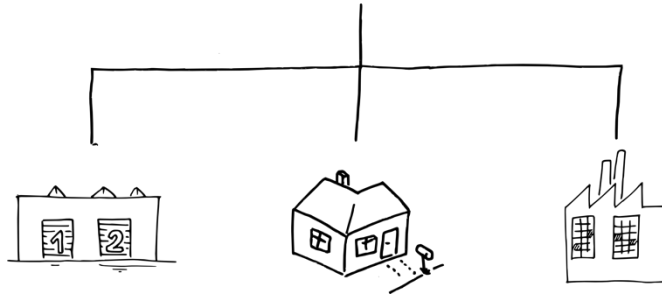
#### 1.5 Portfolio

Collections of projects or programs grouped together to facilitate effective management to meet strategic business objective.

The company is building houses, factories and warehouses - this is the portfolio. If they decide that building family houses is no longer profitable, they made a portfolio decision. Portfolio is driven by strategic objectives of the organization. A project could be successful, but terminated by the organization if it is not supporting its strategy.

-> What projects and services are in the portfolio of your organization?

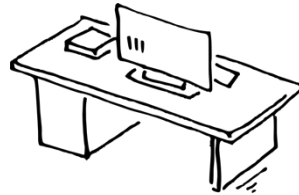
## Portfolio



### 1.6 Project management office

Managing shared resources across all projects

Identifying and developing project management methodology, best practices and standards.

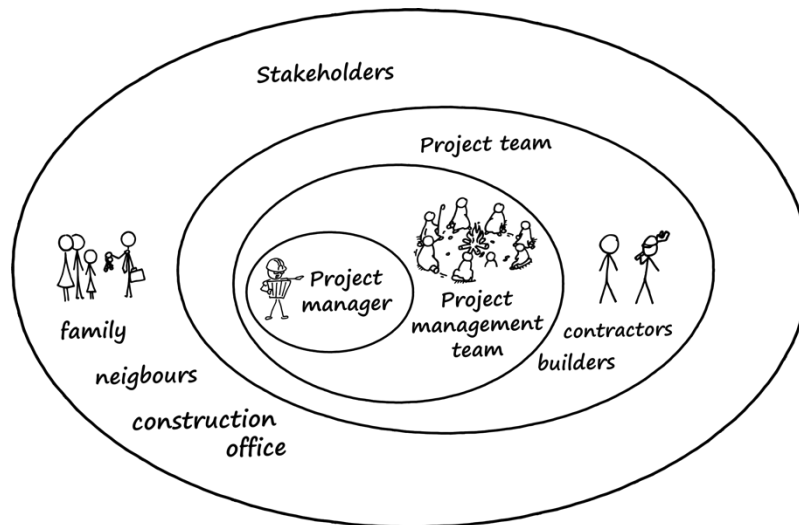


### 1.7 Project stakeholders

A stakeholder is an individual, group or organization who may affect, be affected by, or perceive itself to be affected by a decision, activity or outcome of a project.

Stakeholders have various interests and if you do not understand and manage stakeholders, they can become adversaries of your project.

-> How could stakeholders negatively impact your project?

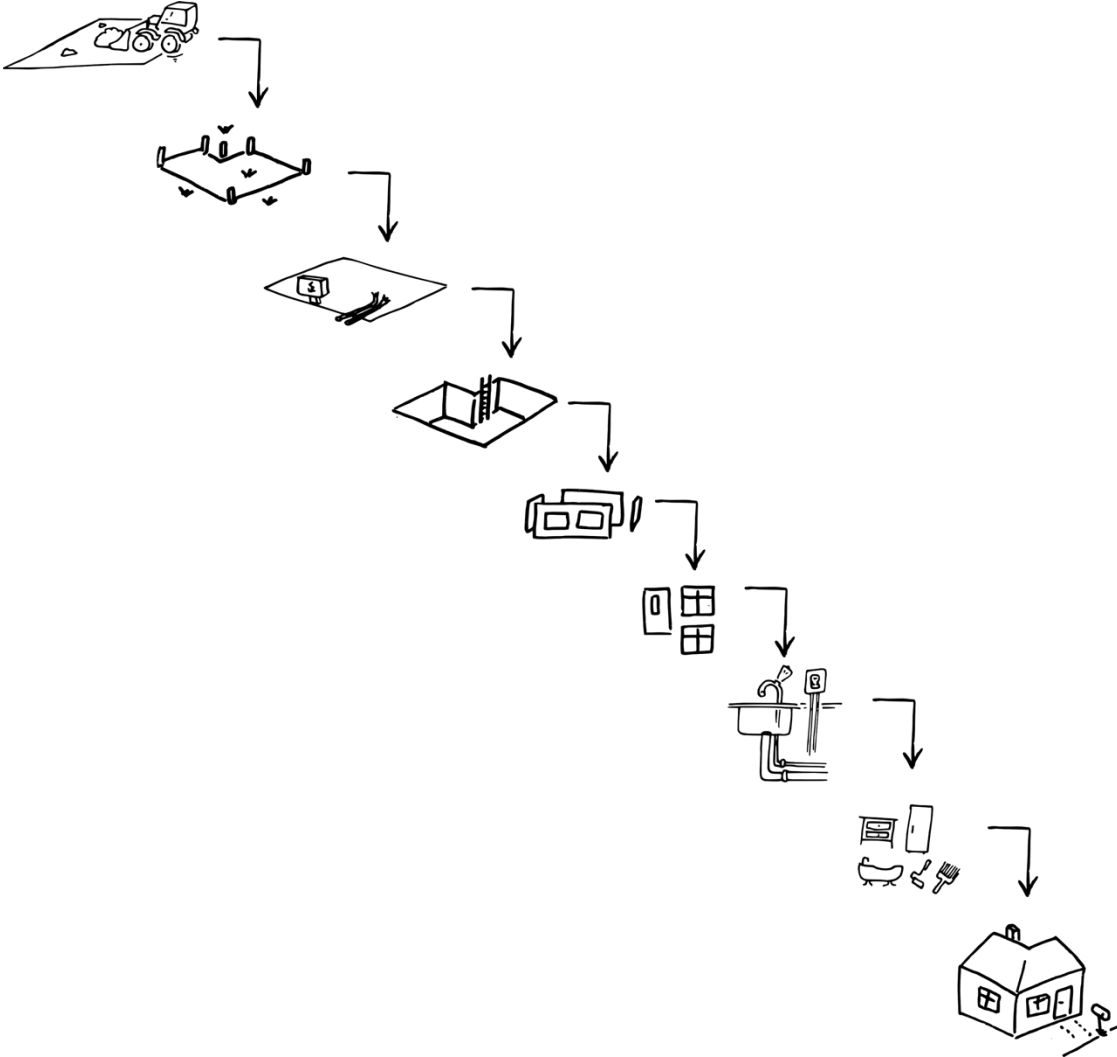


## 1.8 Project lifecycle

A project life cycle is a series of phases that a project passes through from its initiation to its closure.

*You need to draw project lifecycle to have control of the project.*

-> Draw your project lifecycle.



## PROCESS GROUPS

*PMBOK® Guide* describes 47 processes. Each process contains:

- Inputs
- Tools and Techniques
- Outputs

Project management is accomplished through the appropriate application and integration of the 47 logically grouped project management processes, which are categorized into five Process Groups.

Please refer to list of processes:

<http://www.projectman.cz/en/rady-a-pojmy/slovník-projektového-rizeni/pmbok>

### 3.1 Initiating Process Group

Those processes performed to define a new project or a new phase of an existing project by obtaining authorization to start the project or phase.

*In the beginning you need to prepare a high level description of project - project charter and identify stakeholders.*

-> *Why is it important to initiate project properly?*

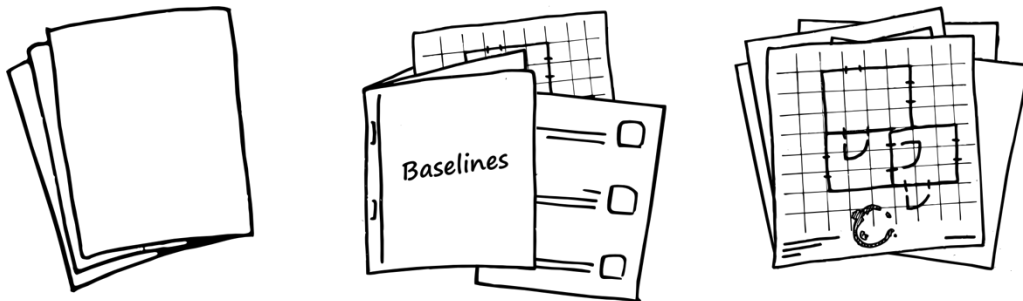


### 3.2 Planning Process Group

Those processes require to establish the scope of the project, refine the objectives and define the course of action required to attain those objectives.

*Planning is putting together detailed plans - baselines of scope, time and cost and management plans, such as communication management plan.*

-> *What could be included in communications management plan?*

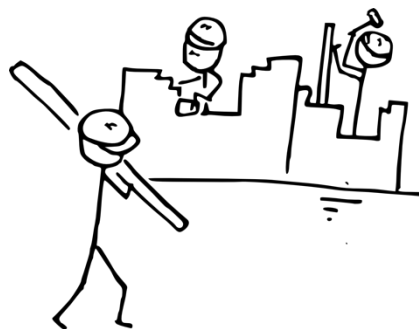


### 3.3 Executing Process Group

Those processes performed to complete the work defined in the project management plan to satisfy the project specifications.

*Executing means doing the work and producing project deliverables. (This is the building of the house.)*

-> *What are deliverables of your project?*



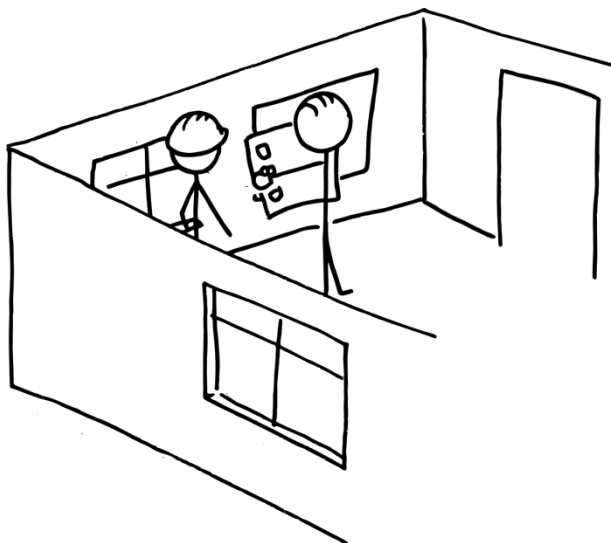
### 3.4 Monitoring and Controlling Process Group

Those processes required to track, review and regulate the process and performance of the project; identify any areas in which changes to the plan are required; and initiate the corresponding changes.



*Unfortunately, things do not always go according to plan. You must have a method to monitor the real situation, compare it to original plan and do corrections in form of changes.*

*-> How could you control progress of your project?*

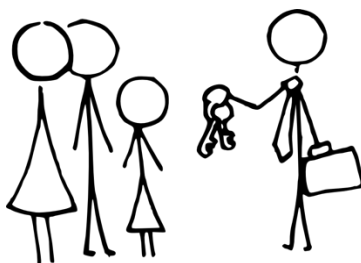


### 3.5 Closing Process Group

Those processes performed to conclude all activities across all process groups to formally complete the project, phase or contractual obligations.

*At the end you hand over final product, conduct lessons learned and terminate project activities.*

*-> Why do we need to collect lessons learned?*



## KNOWLEDGE AREAS

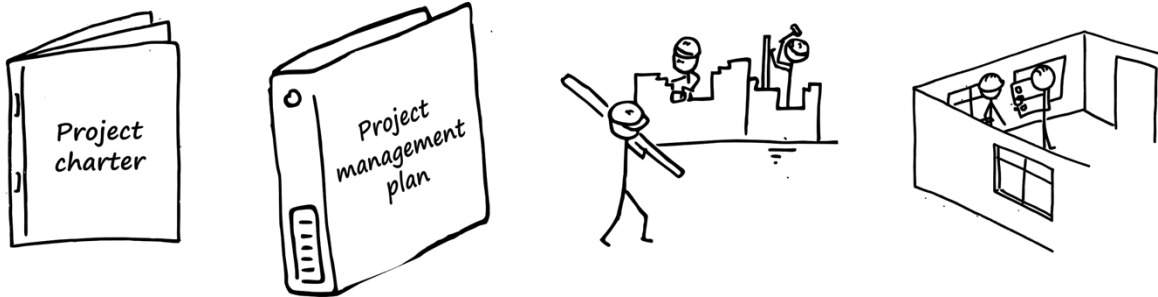
The 47 project management processes identified in the *PMBOK® Guide* are further grouped into ten separate Knowledge Areas. A Knowledge Area represents a complete set of concepts, terms, and activities that make up a professional field, project management field, or area of specialization.

Please refer to list of processes:

<http://www.projectman.cz/en/rady-a-pojmy/slovník-projektového-řízení/pmbok>

### 4. Project Integration Management

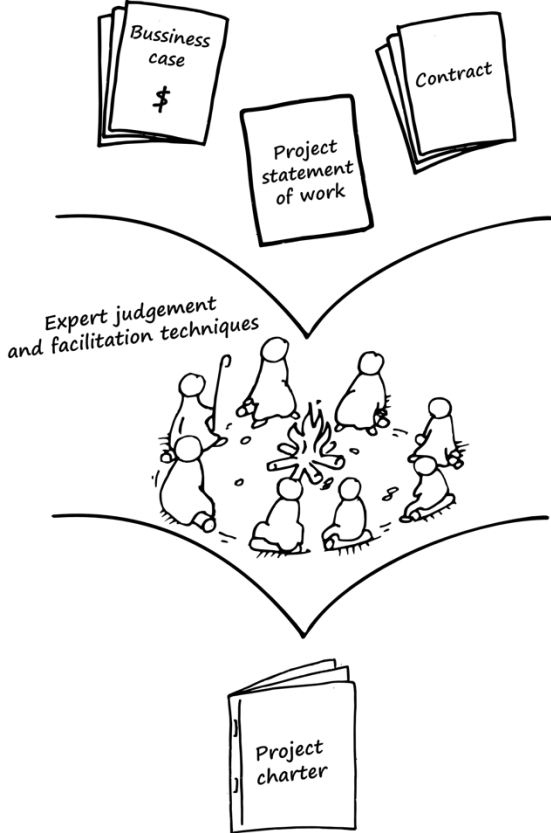
Project integration management includes the processes and activities needed to identify, define, combine, unify and coordinate the various processes and project management activities within the Project management process groups.



### 4.1 Develop Project Charter

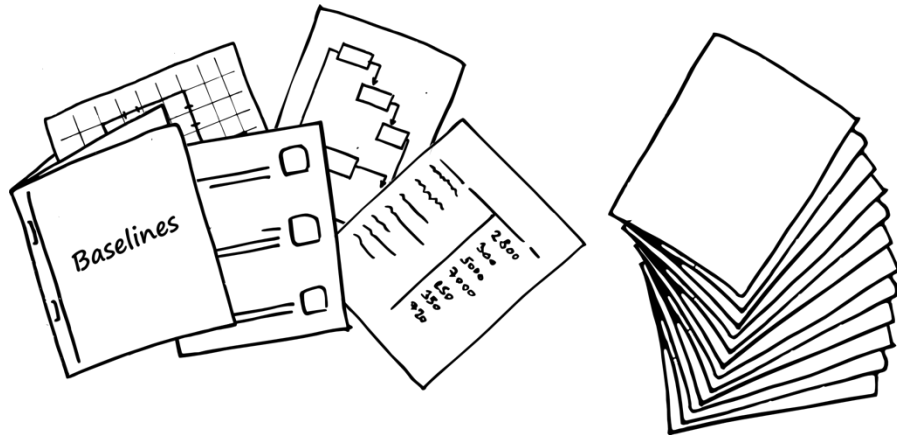
Develop Project Charter is the process of developing a document that formally authorizes the existence of a project and provides project manager with the authority to apply organizational resources to project activities.

*Inputs could be business case, project statement of work or contract. Using expert judgement and facilitation techniques you develop project charter.*



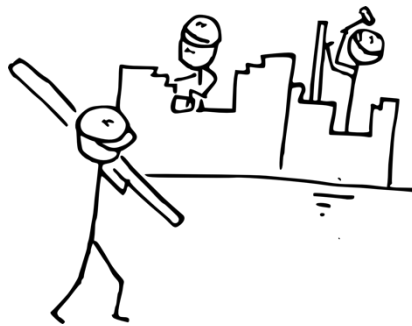
## 4.2 Develop Project Management Plan

Develop project management plan is the process of defining, preparing, and coordinating all subsidiary plans and integrating them into a comprehensive project management plan.



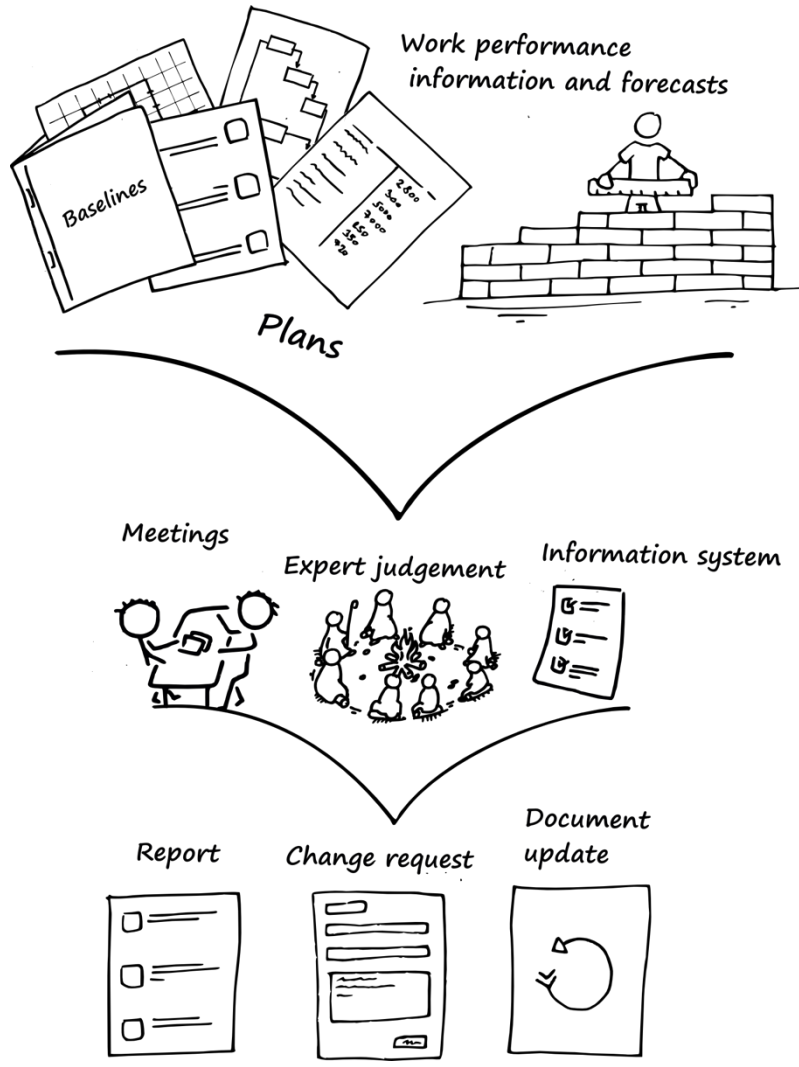
## 4.3 Direct and Manage Project Work

Direct and Manage Project Work is the process of performing the work defined in the project management plan and implementing approved changes to achieve the project's objectives.



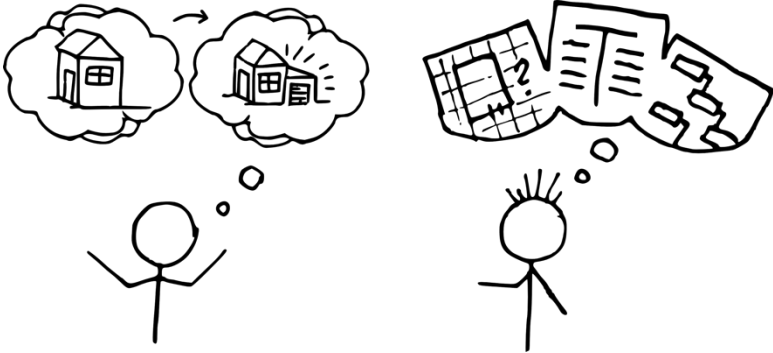
#### 4.4 Monitor and Control Project Work

Monitor and Control Project Work is the process of tracking, reviewing and reporting the progress to meet the performance objectives defined in the project management plan.



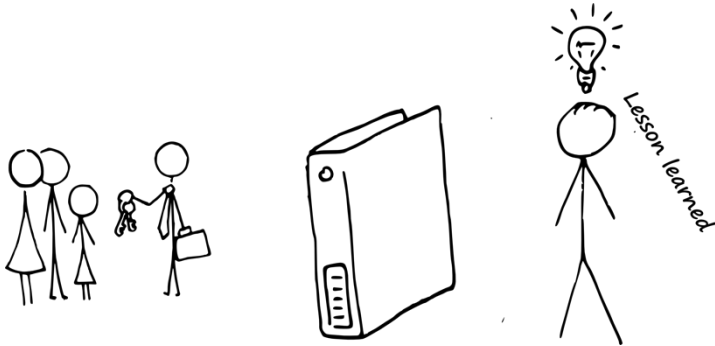
### 4.5 Perform Integrated Change Control

Perform Integrated Change Control is the process of reviewing all change requests, approving changes and managing changes to the deliverables, organizational process assets, project documents and the project management plan.



### 4.6 Close Project or Phase

Close Project or Phase is the process of finalizing all activities across all of the Project Management Process Groups to formally complete the project or phase.

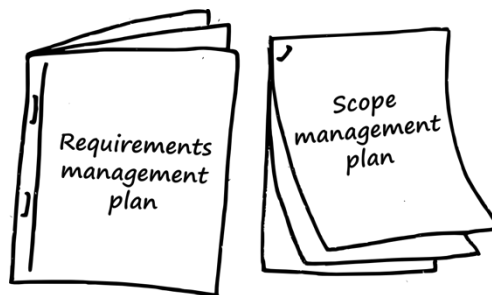


## 5. Project Scope Management

Project Scope Management includes processes required to ensure that the project includes all the work required, and only the work required, to complete the project successfully.

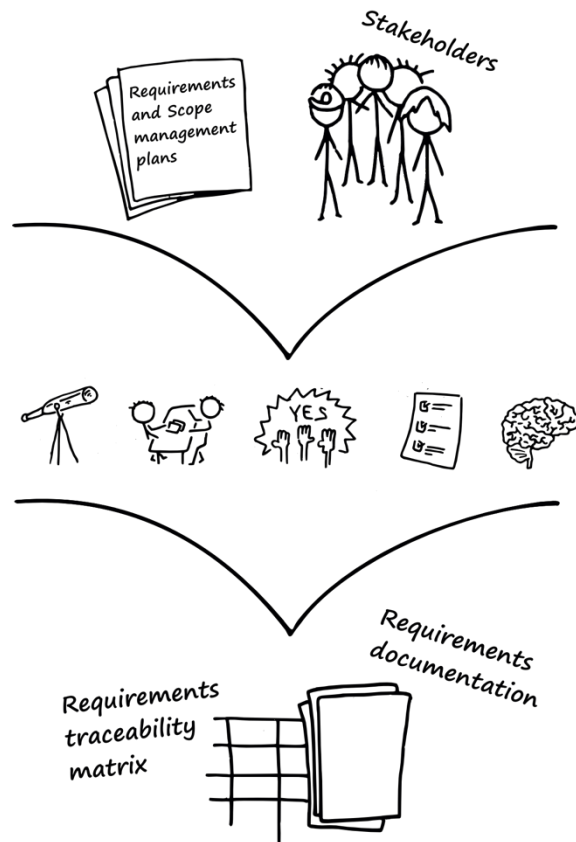
### 5.1 Plan Scope management

Plan Scope Management is the process of creating a scope management plan that documents how the project scope will be defined, validated, and controlled.



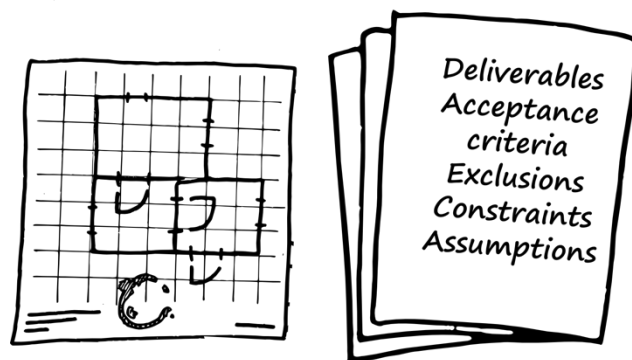
## 5.2 Collect Requirements

Collect requirements is the process of determining, documenting, and managing stakeholder needs and requirements to meet the project objectives.



## 5.3 Define Scope

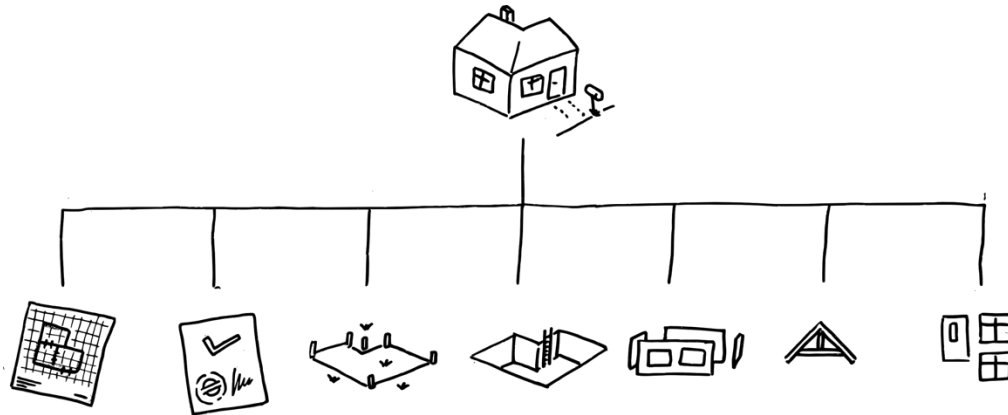
Define Scope is the process of developing a detailed description of the project and product.





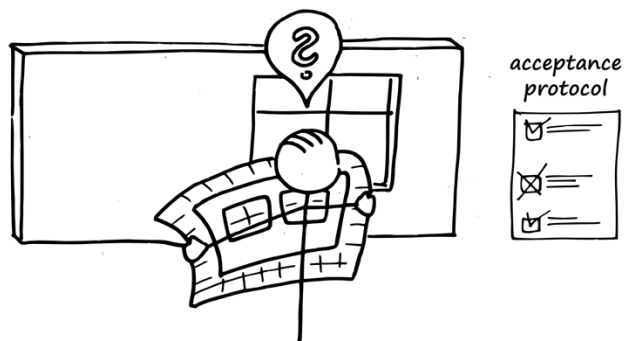
## 5.4 Create WBS

Create WBS (Work Breakdown Structure) is the process of subdividing project deliverables and project work into smaller more manageable components.



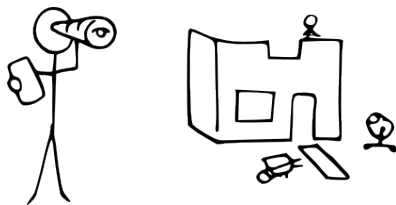
## 5.5 Validate Scope

Validate Scope is the process of formalizing acceptance of the completed project deliverables



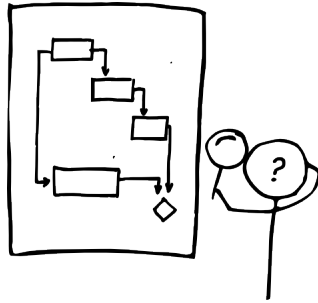
## 5.6 Control Scope

Control Scope is the process of monitoring the status of the project and product scope and managing changes to the scope baseline.



## 6. Project Time Management

Project Time Management includes the processes required to manage timely completion of the project.



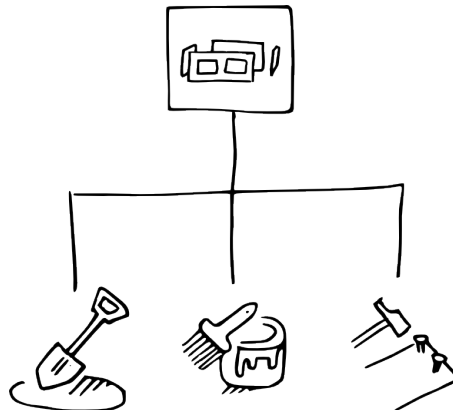
### 6.1 Plan Schedule Management

Plan Schedule Management is the process of establishing the policies, procedures, and documentation for planning, developing, managing, executing, and controlling the project schedule.



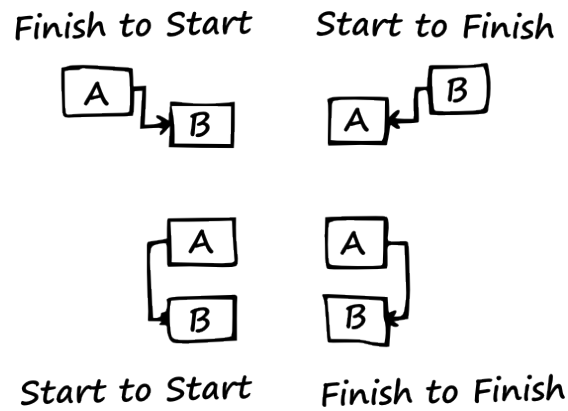
### 6.2 Define Activities

Define Activities is the process of identifying the specific actions to be performed to produce the project deliverables.



### 6.3 Sequence Activities

Sequence Activities is the process of identifying and documenting relationships among the project activities.



### 6.4 Estimate Activity Resources

Estimate Activity Resources is the process of estimating the type and quantities of material, people, equipment or supplies required to perform each activity.



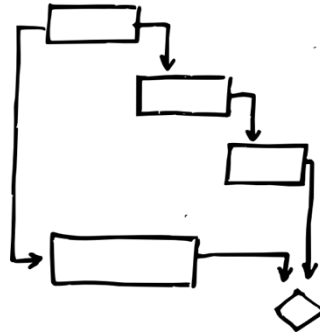
### 6.5 Estimate Activity Durations

Estimate Activity Durations is the process of estimating the number of work periods needed to complete individual activities with estimated resources.



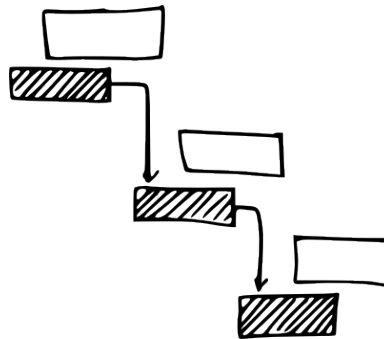
### 6.6 Develop Schedule

Develop Schedule is the process of analyzing activity sequences, durations, resource requirements and schedule constraints to create the project schedule model.



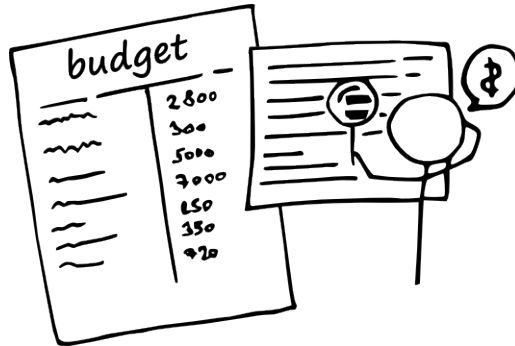
### 6.7 Control Schedule

Control Schedule is the process of monitoring the status of project activities to update project progress and manage changes to the schedule baseline to achieve the plan.



## 7. Project Cost Management

Project Cost Management includes the processes involved in planning, estimating, budgeting, funding, managing and controlling costs so that the project can be completed within the approved budget.



### 7.1 Plan Cost Management

Plan Cost Management is the process that establishes the policies, procedures, and documentation for planning, managing, expending, and controlling project costs.



### 7.2 Estimate Cost

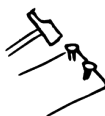
Estimate Cost is the process of developing an approximation of the monetary resources needed to complete project activities.



2 999 \$



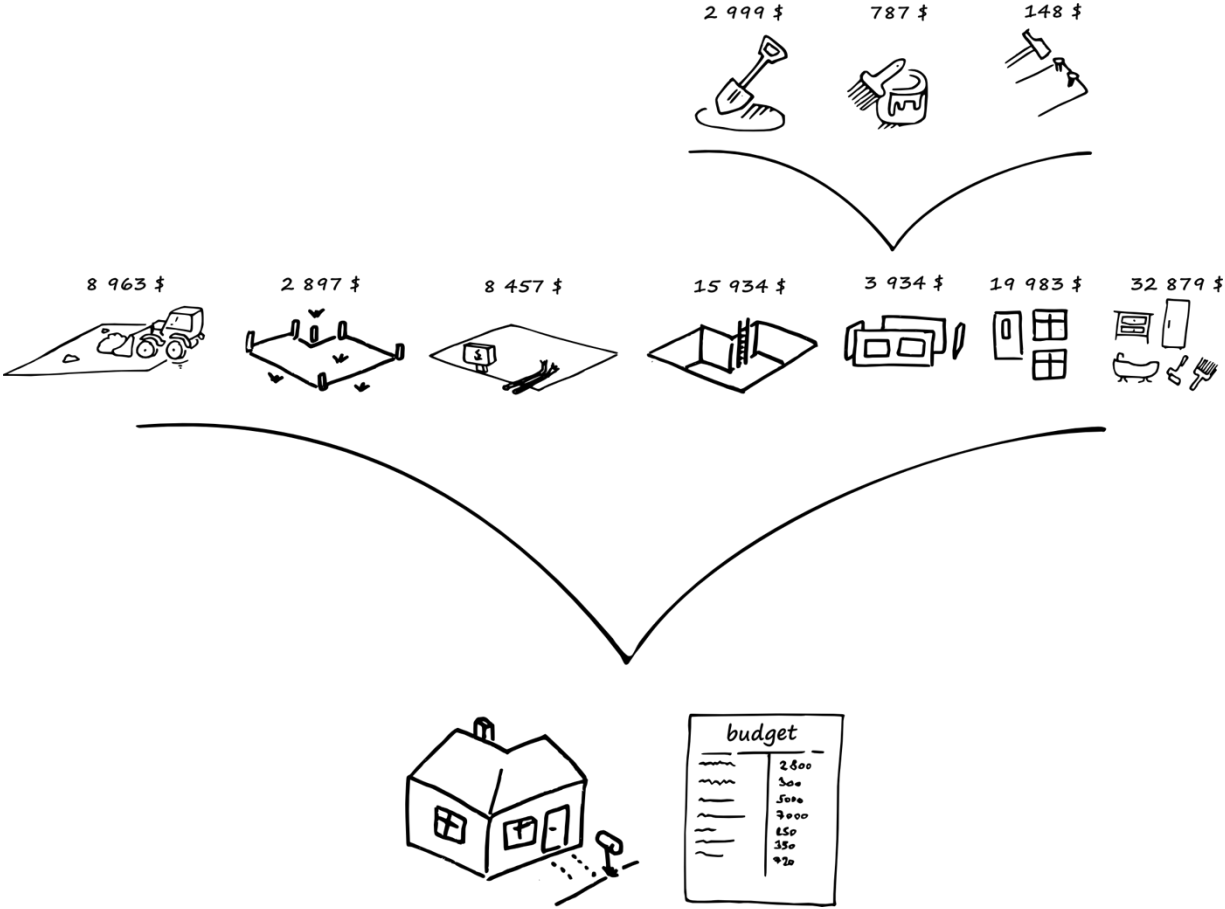
787 \$



148 \$

### 7.3 Determine Budget

Determine Budget is the process of aggregating the estimated costs of individual activities or work packages to establish an authorized cost baseline.



### 7.4 Control Costs

Control Costs is the process of monitoring the status of the project to update the project costs and managing changes to the cost baseline.

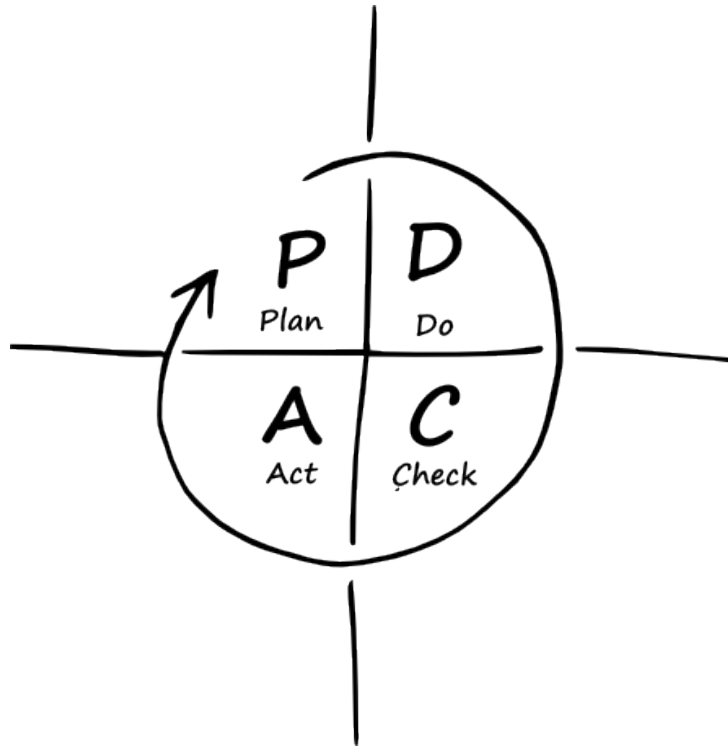


*Earned value management*

PN	EL	AC	PI
u	u	u	u
u	u	u	u
u	u	u	u
u	u	u	u
u	u	u	u

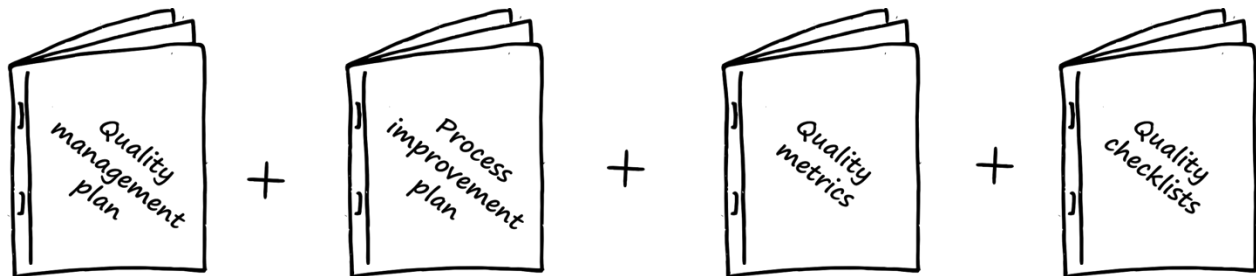
## 8. Project Quality Management

Project Quality Management includes the processes and activities of the performing organization that determine quality policies, objectives, and responsibilities so that the project will satisfy the needs for which it was undertaken



### 8.1 Plan Quality Management

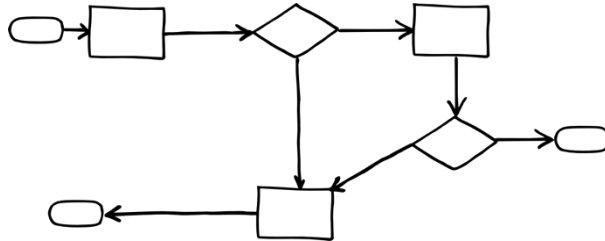
Plan Quality Management is the process of identifying quality requirements and/or standards for the project and product and documenting how the project will demonstrate compliance with relevant quality requirements.





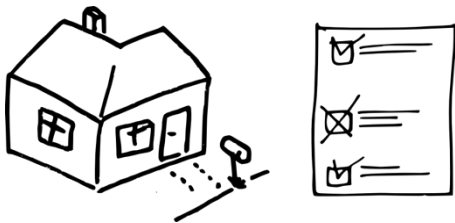
## 8.2 Perform Quality Assurance

Perform Quality Assurance is the process of auditing the quality requirements and the results from quality control measurements to ensure appropriate quality standards and operational definitions are used



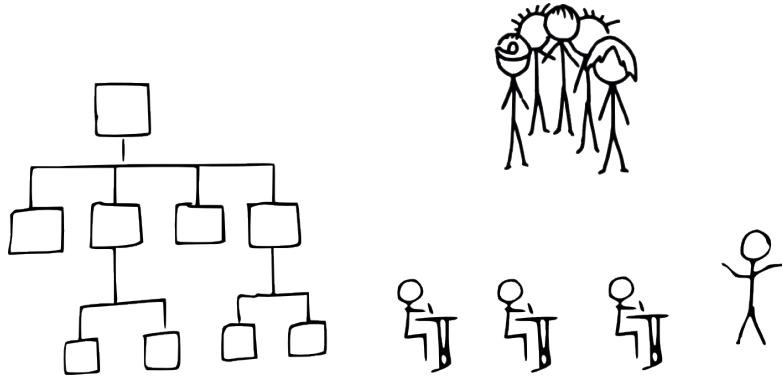
## 8.3 Control Quality

Control Quality is the process of monitoring and recording results of executing the quality activities to assess performance and recommend necessary changes.



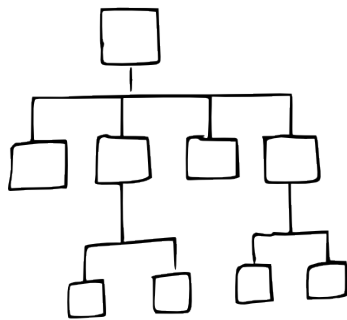
## 9. Project Human Resource Management

Project Human Resource Management includes the processes that organize, manage and lead the project team. The project team is comprised of the people with assigned roles and responsibilities for completing the project.



### 9.1 Plan Human Resource Management

Plan Human Resource Management is the process of identifying and documenting project roles, responsibilities and required skills, reporting relationships and creating a staffing management plan

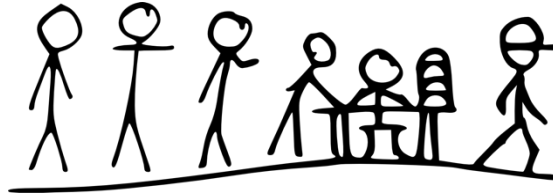


Work package	Mary	John	Jimmy	Kate
Project plan	A	R	R	I
Project budget	A	R	C	R
Kickoff event	I	I	A,R	I



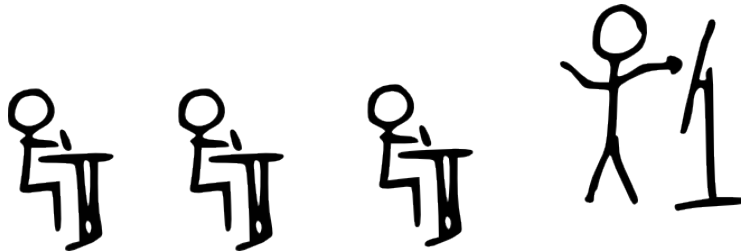
## 9.2 Acquire Project Team

Acquire Project Team is the process of confirming human resource availability and obtaining the team necessary to complete project activities.



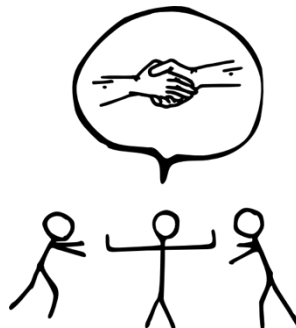
## 9.3 Develop Project Team

Develop Project Team is the process of improving competencies, team member interaction and the overall team environment to enhance project performance.



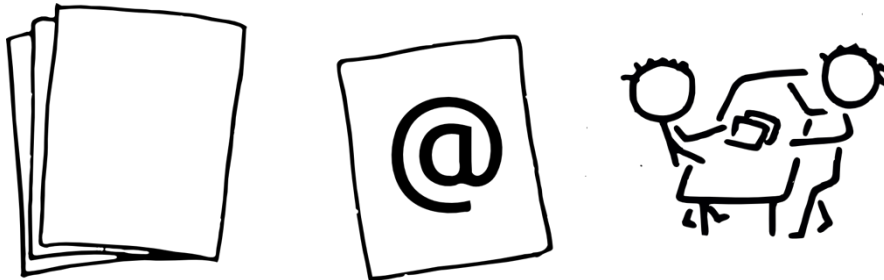
## 9.4 Manage Project Team

Manage Project Team is the process of tracking team member performance, providing feedback, resolving issues and managing changes to optimize project performance.



## 10. Project Communications Management

Project Communications Management includes the processes required to ensure timely and appropriate planning, collection, creation, distribution, storage, retrieval, management, control, monitoring, and the ultimate disposition of project information.



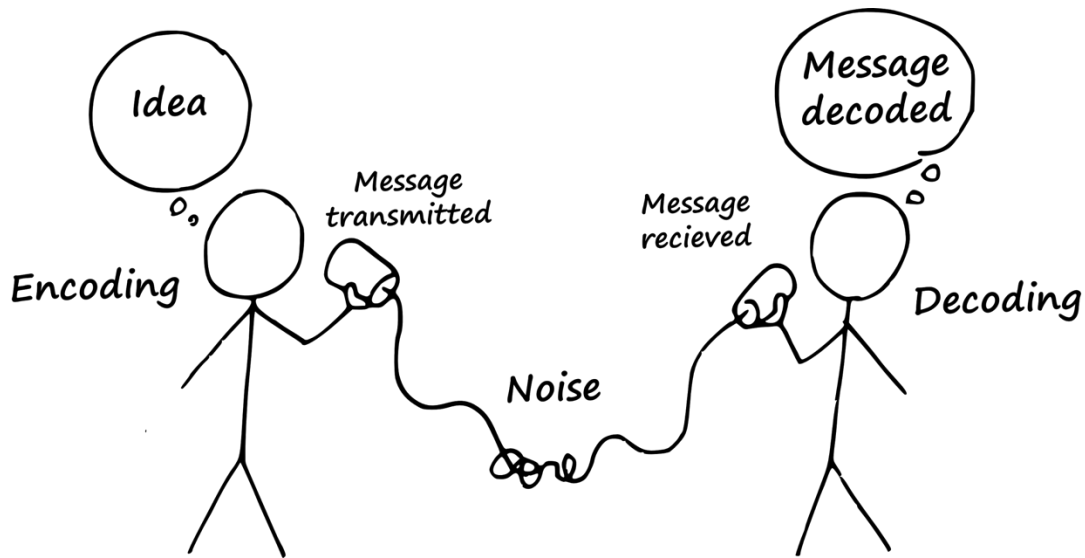
### 10.1 Plan Communications Management

Plan Communications Management is the process of developing an appropriate approach and plan for project communications based on stakeholder's information needs and requirements, and available organizational assets.



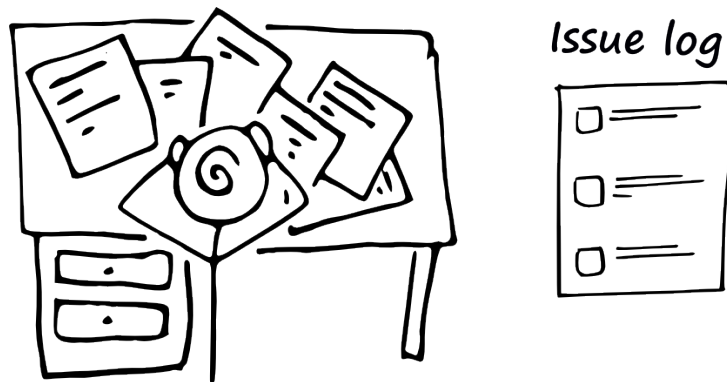
## 10.2 Manage Communications

Manage Communications is the process of creating, collecting, distributing, storing, retrieving, and the ultimate disposition of project information in accordance to the communications management plan.



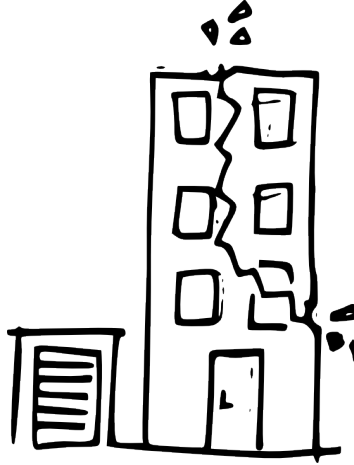
## 10.3 Control Communications

Control Communications is the process of monitoring and controlling communications throughout the entire project lifecycle to ensure the information needs of the project stakeholders are met.



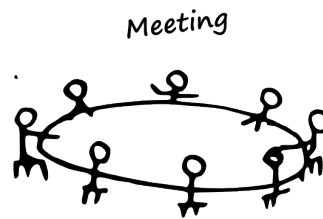
## 11. Project Risk Management

Project Risk Management includes the processes of conducting risk management planning, identification, analysis, response planning, and controlling risk on a project.



### 11.1 Plan Risk Management

Plan Risk Management is the process of defining how to conduct risk management activities for a project.

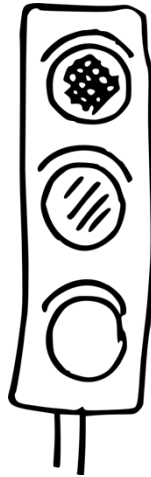


### 11.2 Identify Risks

Identify Risks is the process of determining which risks may affect the project and documenting their characteristics.

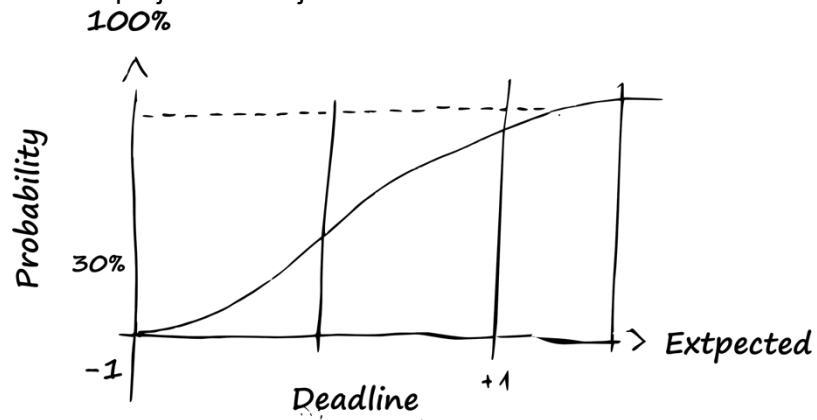
### 11.3 Perform Qualitative Risk Analysis

Perform Qualitative Risk Analysis is the process of prioritizing risks for further analysis or action by assessing and combining their probability of occurrence and impact.



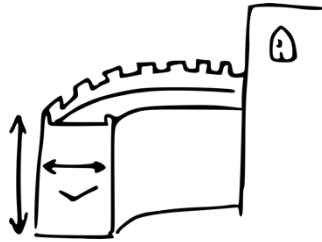
#### 11.4 Perform quantitative risk analysis

Perform Quantitative Risk Analysis is the process of numerically analyzing the effect of identified risks on overall project objectives.



#### 11.5 Plan Risk Responses

Plan Risk Responses is the process of developing options and actions to enhance opportunities and to reduce threats to project objectives.



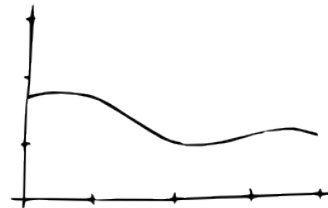
### 11.6 Control Risks

Control Risks is the process of implementing risk response plans, tracking identified risks, monitoring residual risks, identifying new risks and evaluating risk process effectiveness throughout the project.

*Risk register*

<i>Event</i>	<i>Impact</i>	<i>Owner</i>
<i>~~~~~</i>	<i>~~~~~</i>	<i>~~~~~</i>
<i>~~~~~</i>	<i>~~~~~</i>	<i>~~~~~</i>

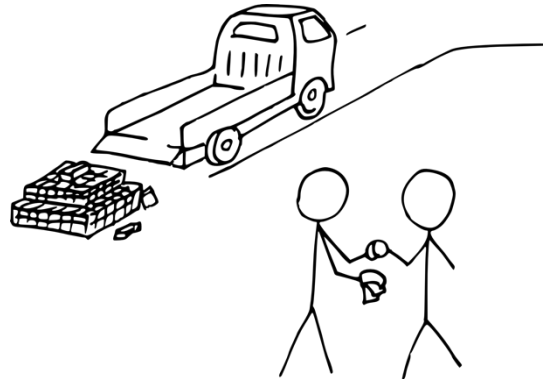
*Trend*





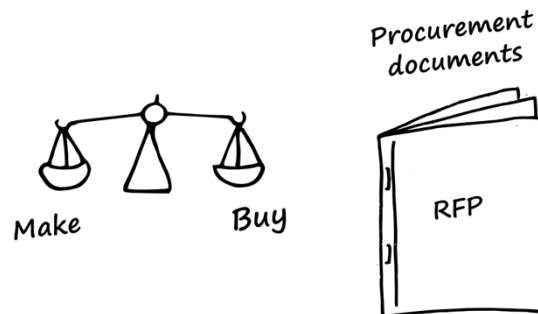
## 12. Project Procurement Management

Project Procurement Management includes the processes necessary to purchase or acquire products, services, or results needed from outside the project team.



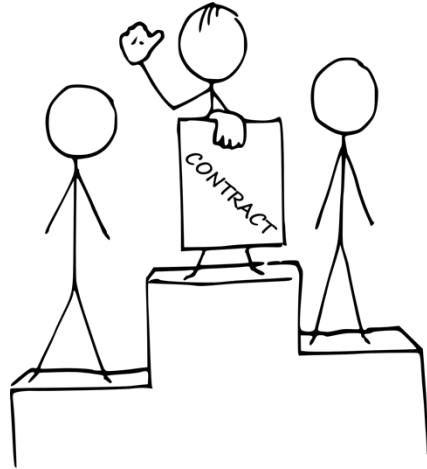
### 12.1 Plan Procurement Management

Plan Procurement Management is the process of documenting project procurement decisions, specifying the approach and identifying potential sellers.



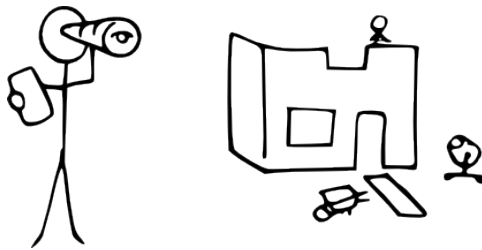
### 12.2 Conduct Procurements

Conduct Procurements is the process of obtaining seller responses, selecting a seller and awarding a contract.



### 12.3 Control Procurements

Control Procurements is the process of managing procurement relationships, monitoring contract performance and making changes and corrections as needed.



### 12.4 Close Procurements

Close Procurements is the process of completing each procurement.

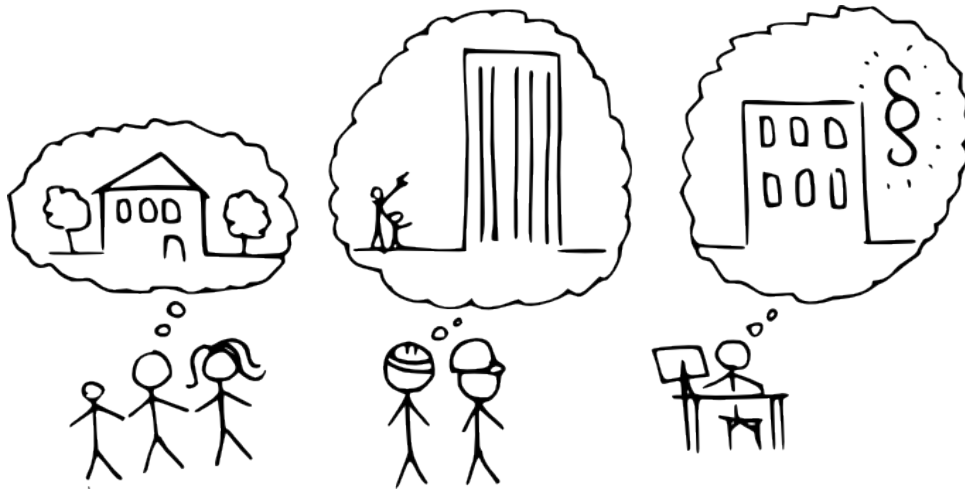


## 13. Project Stakeholder Management

Project Stakeholder Management includes the processes required to identify the people, groups or organizations that could impact or be impacted by the project, to analyze stakeholder expectations and their impact on the project, and to develop appropriate management strategies for effectively engaging stakeholders in project decisions and execution.

### 13.1 Identify Stakeholders

Identify Stakeholders is the process of identifying the people, groups or organizations that could impact or be impacted by a decision, activity or outcome of the project, analyzing and documenting relevant information regarding their interests, involvement, interdependencies, influence and potential impact on project success.



### 13.2 Plan Stakeholder Management

Plan Stakeholder Management is the process of developing appropriate management strategies to effectively engage stakeholders throughout the project lifecycle, based on the analysis of their needs, interests and potential impact on project success.

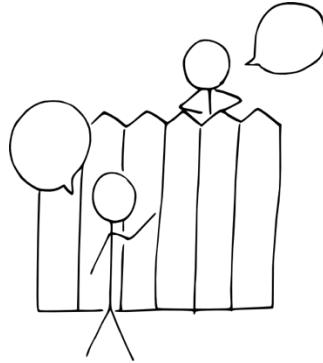
#### *Stakeholder engagement matrix*

*Comparing current (C) and desired (D) engagement levels of stakeholders*

<i>Stakeholder</i>	<i>Unaware</i>	<i>Resistant</i>	<i>Neutral</i>	<i>Supportive</i>	<i>Leading</i>
<i>John</i>		<i>C</i>		<i>D</i>	
<i>Mary</i>				<i>C,D</i>	

### 13.3 Manage Stakeholder Engagement

Manage Stakeholder Engagement is the process of communicating and working with stakeholders to meet their needs/ expectations, address issues as they occur, and foster appropriate stakeholder engagement in project activities throughout the project lifecycle.



### 13.4 Control Stakeholder Engagement

Control Stakeholder Engagement is the process of monitoring overall project stakeholder relationship and adjusting strategies and plans for engaging stakeholders.

