Coursera: Google project management

Monday, May 20, 2024 7:49 AM

- Project management is for people that are organized, action oriented, diligent, and strategic.
- **What exactly is project management?**
  Project management is the application of knowledge, skills, tools, and techniques to meet the project requirements and achieve the desired outcome.
- **This program includes six industry-relevant courses that focus on topics like**
  a. project management fundamentals;
  b. goals, objectives, and deliverables;
  c. risk management;
  d. team dynamics;
  e. project management methodologies;
  f. data-driven decision making; and more.
- **Six courses:**
  1. Fundamentals of project management
  2. Project initiation: Starting a successful project
  3. Project planning: putting it all together
  4. Project execution: running the project
  5. Agile project management
  6. Capstone: applying project management in the real world.

Course 1 : fundamentals of project management – May 1

Module 1

- **objectives**
  - Which types of jobs are suitable for you
  - Define key project management terms
  - Define roles and responsibilities
  - Define types of job you can pursue after completing this program
  - Define project and project manager
  - Define project life cycle
  - Describe organizational structures and cultures
- Def of project: A unique endeavor, usually includes a set of deliverables. It is temporary, with a defined beginning and end. In short, it is a series of tasks to reach the desired outcome.
- Project management is the application of knowledge, skills, tools, and techniques to meet the project requirements and achieve the desired outcome.
- Program managers: managing multiple projects for a specific product.

Module 2

How project managers add value

- project managers task: Project managers usually follow a process that involves
  - planning and organizing, (gathering requirements, defining the tasks, setting the tone of the team)
  - managing tasks, (tracks the progress and communicate milestones to other teams)
  - budgeting, controlling costs and other factors.
- Project management roles are available in different industries: construction prog managers, IT prog m, Eng prog. M.
- Project managers shepherd projects from start to finish and serve as guides for their team, using their impeccable organizational and interpersonal skills every step of the way.
- Project managers add value to their teams and organizations in key ways that include prioritization, delegation, and effective communication.
- Project managers add value to their teams and organizations through effective prioritization of tasks required to complete a project. They're experts at helping team members identify and break down large tasks into smaller steps. There'll be times when a project manager may not know which task to prioritize.
- Stakeholders are people who are interested in and affected by the project's completion and success, like the leader of an organization.
- Project managers use delegation to add value to their teams and organizations by matching tasks to individuals who can best complete the work.
- Project managers deliver value through effective communication, both with their team and with key stakeholders. This refers to being transparent, which means being up front with plans and ideas and making information readily available.
- In project management, the word “customer” refers to a person or an organization that defines the requirements of the project and sets important guidelines, such as budget and deadlines. In projects, customers can be internal or external.
- The team is a project’s biggest asset. A successful project manager knows that and takes the time to understand each person’s motivations, strengths, and weaknesses. Project managers add value to the project by identifying the right team for the project and enabling the team to be successful and make decisions.
- Sometimes, when you ask why something is being done a certain way, the response you get is, “Because we’ve always done it this way.” A project manager adds value to a project when they break down barriers, allow their team to innovate new ways to do things, and empower them to share ideas. As a project manager, you have to model ingenuity and collaboration, and encourage your team to do the same.

project managers roles and responsibilities

- Project managers usually follow a process that involves
  - planning and organizing,
  - managing tasks,
  - budgeting, and controlling costs, and other factors,
- Examples:
  - Planning and organizing:
    - Make use of productivity tools and create processes
    - Create plans, timelines, schedules, and other forms of documentations to track project completion

    - Managing task: A project task is an activity that needs to be accomplished within a set period of time by you, your team, or your stakeholders.
    - budgeting, and controlling costs, and other factors,
        - Monitor and manage the budget
        - Track issues and risks
        - Manage quality
        - Remove unforeseen barriers (resources,).
- As a project manager you need to have **interpersonal skills. Interpersonal skills** are the behaviors you use to interact with others, such as communication, active listening, and leadership.
- Very important- Responsibilities of a project manager:
    - **Teaching and mentoring:** Take the time and talk to people.
    - **Building relationships**: care about people and ask about their lives, and check on that later. + Pay attention to the insights they offer you about their work style since their actions can inform how to most effectively interact with them.
    - **Controlling Change**: remain flexible and adjust to the stakeholders' needs. However, it is also important to protect your team from constant change and rework. A good way to do this is by documenting the initial expectations of the project and clearly identifying the changes being requested.
    - **Empowering your team**: Giving your team the ability to work directly with the stakeholders and their teams lets them know that you trust and believe in their skills. One of the best things about empowering your team is getting fresh ideas and passionate employees willing to help find solutions to problems. Another way you can empower your team is by delegating responsibilities to them, allowing them to make some decisions for the project, and using their input in the planning and execution of the project.
    - **Communicating status and concerns**: The project manager sets the tone for the project. Maintaining an open door policy and building trust within your team and among stakeholders
- A project manager is not often the direct manager of the people working on a project team. A project manager manages the tasks of a team. Each person is the expert on their portion of the project, but no one will be an expert on every aspect of the project.
- To manage tasks of a project:
    - Hold all team members accountable for their assigned tasks.
    - Ensure that issues and risks are tracked and visible and establish escalation paths.
    - Understand and help teammates to adopt the right workflows and project management styles.
    - Collaborate with other tema at the organization to deliver solutions that meet the requirements based on project scope, schedule, and budget.
- The team is cross-functional with different backgrounds, and expertise. To manage a cross-functional team:
    - **Clarify goals**: each member of the team should understand their role. Be direct and concise. Avoid lots of details and explanations, just define the key items (deadlines, quality requirements, or resources.
    - **Get members with the right skills**:
    - **Measure progress**: Showing your team how much they have accomplished helps keep them motivated. You can measure progress in many ways, including meeting key milestones, completing project tasks, and meeting project goals on time and within budget. Regularly communicate with your team members to check on their progress. Ask them if they anticipate being finished on time.
    - **Recognize efforts**: , when you work with cross-functional teams, there are certain skills that get recognized more than others. As a project manager, it is your job to make sure that each member of your cross-functional team recognizes the value of their efforts each step of the way. Learning what makes your team members feel supported, giving and taking feedback, and being mindful of each individual's background, personal identifiers, and work style can help mediate some of the differences among team members.

Acquiring the core skills of successful project managers

- Skills for successful project management
    - **Enabling decision making**: You'll ensure that projects stay on schedule by gathering information from teammates and using those insights to help the team make informed decisions. when you allow team members to have a voice in decisions, it helps foster an environment of responsibility, accountability, and team closeness. You'll also make sure that those decisions are communicated to the necessary coworkers, whether that's the immediate team or company leaders.
    - **Communicating and escalating**: clearly communicate goals and expectations. documenting plans, sending emails about the status of the project, or holding a meeting to escalate risks or issues to stakeholders. When escalation is required, try to approach management with both the problem and the potential solution or suggestions.
    - **Flexibility**: plan changes (goals of the project may change, a member may leave). **Stay cool under the pressure.** Change is inevitable, and the more flexible you are as a project manager, the more successful you will be throughout your career. To be flexible
        - Assess external constrains, such as holidays, and vacations.
        - Plan for risks and challenges: someone leaves,
        - Calculate float in your schedule: Float, or slack, refers to the amount of time you can wait to begin a task before it impacts the project schedule and threatens the project outcome.
    - **Strong organizational skills**: having the ability to organize these processes and the core elements of a project to ensure nothing gets lost or overlooked. you might decide to track daily tasks in a spreadsheet or send frequent status updates or reminders. Use organizational tools:
        - Planning and scheduling software (templates, workflows, calendars)
        - Collaboration tools (email, collaboration software, dashboards)
        - Documentation (files, plans, spreadsheets)
        - Quality assurance tools (evaluations, productivity trackers, reports)
- Handling ambiguity
    - **Keep calm.**
    - **Express empathy**. As a project manager, it is important to try to understand what your team is thinking and feeling, especially during times of ambiguity.
    - **Communicate what you know clearly**.
    - **Make decisions and stick to them**. Try not to second-guess your decisions in front of your team since this can lead to greater uncertainty.
    - **Trust the expertise of your team**.
- Building relationships with teammate and stakeholders

- It requires interpersonal skills. Possessing strong interpersonal skills helps to communicate with the teammate to understand their needs and concerns.
- This is called influencing without authority: A project manager's ability to guide teammates to complete their assigned work without acting as their direct managers.
- Key interpersonal skill that helps with to accomplish this and guide the team (without the authority of being their direct manager):
  - Communication (checking with the team to see how they accomplish a task, get progress),
  - Negotiations, (compromise with the deadline)- You need to balance their needs and what is the best for the project.
  - Conflict mediation:
  - Understanding motivations: This means getting to know your teammates and figuring out what pushes them to do their best work. Understanding motivations might also include learning how your teammates prefer to receive feedback, and how they like to receive recognition for doing a great job. You would use that individualized information to motivate and encourage each person on your team

Module 3

Understanding the project life cycle

- There are many different ways to manage a project. Many things can impact a project, it is important to understand its basic structure or project life cycle.
- Most project life cycles have four major phases, each with their own set of tasks and concerns.
  - Initiate project: launchpad of the project, define goals and deliverables. Identify resources, budget, people, and any other detail that can impact the successful part of the project. Document everything in one place.
  - Make a plan: Creating a plan is 100% essential, timeline, budget, communication, plan for changes, and resources
  - Execute and complete tasks:
  - Close the project: celebrate the work, review the process, what worked good and not, and learn to plan better for the next time.
    - Some projects have firm deadlines, other projects have different finish lines.

Analyzing the different project phase

- Initiate the project: organize all info,
  - define project goals, stakeholders, customer's goals, measurable objectives
  - Determine resources, people, and other project details (vendor, software, physical space). Basically, anything you need to complete a project is a resource.
  - Get project approval
- Make a plan
  - Create a budget
  - Set the schedule
  - Establish your team
  - Determine roles and responsibilities
  - Plan for risk and change
  - Establish communication (each teammate knows what their tasks and know how to deal with problems + communicate the plan with others who have interest in your project success)
- Execute & complete the tasks
  - Manage the progress as a whole (make sure everyone understands tasks, and the goals, and the deadlines, Break down any barriers that would slow or stop the team from completing tasks.)
  - Communicate (Remove any obstacles, alert people if there is any delay), don't over communicate.
  - Make adjustments (schedule, budget, and allocation of resource)-communicate again with stakeholders.
- Close the project (This is after all goals achieved)
  - Ensure all tasks have been completed (any outstanding invoices have been paid, resources are returned and accounted for, and project documentation has been submitted)
  - Confirm acceptance of the project outcome (crucial to the project success)
  - Reflect on lessons learned (This reflection is usually called a retrospective, and it's a chance to note best practices and learn how to manage your project more effectively next time, even if everything went great.) The notes from your retrospective are also valuable to the people or organization receiving the end result of the project. That's because they can use that information to inform decisions about their business the next time they consider a project.
  - Communicate the results with stakeholders (people who are interested in, and affected by the project success.)
  - Celebrate completing the project
  - Formally move on from the project so that you can pursue other projects.

Project management methodologies

- Different types of projects will benefit from different types of approaches.
- Project management methodology: a set of guiding principles and processes for owning a project though its life cycle
- Two major types:
  - Linear: previous phase or task has to be completed before the next can start (building the house). They don't require many changes during the development and have a clear sequential process.
  - Iterative, some of the phases and tasks will overlap or happen at the same time that other tasks are being worked on (film making). allow for more flexibility and anticipate changes. You're able to test out parts of the project to make sure they work before the final result is delivered, and you can deliver parts of the project as they are completed, rather than waiting for the entire project to be done.
- Two popular PM methodologies
  - Waterfall: sequential order of phases. It has a linear approach. This is like a factory. There are many styles of waterfalls. We use this approach when phases are well defined and tasks are sequential. There should be no change in the goal. It is good fro projects that changes are expensive to implement once the project starts.
  - Agile:
    - Move quickly and easily
    - Willing to change and adapt
    - Done in pieces (iterative)
    - Good for faster delivery like software.
    - Project phases overlap and tasks are completed in iterations, which in scrum are called SPRINTs.
    - Agile is a mindset, rather than series of steps to complete. Collaborative work, that seeks feedback from the client to deliver as fast as possible, and adjust changes.
    - The method is good for projects where the client has an idea of what they want, with no concrete picture in mind.
    - Level of high uncertainty and risk involved with the project.
    - Example: building a website.
- **Waterfall and Agile Comparison**

	Waterfall	Agile
Project manager's role	Project manager serves as an active leader by prioritizing and assigning tasks to team members.	Scrum Master acts primarily as a facilitator, removing any barriers the team faces. Team shares more responsibility in managing their own work.
Scope	Project deliverables and plans are well-established and documented in the early stages of initiating and planning. Changes go through a formal change request process.	Planning happens in shorter iterations and focuses on delivering value quickly. Subsequent iterations are adjusted in response to feedback or unforeseen issues.
Schedule	Follows a mostly linear path through the initiating, planning, executing, and closing phases of the project.	Time is organized into phases called Sprints. Each Sprint has a defined duration, with a set list of deliverables planned at the start of the Sprint.
Cost	Costs are kept under control by careful estimation up front and close monitoring throughout the life cycle of the project.	Costs and schedule could change with each iteration.
Quality	Project manager makes plans and clearly defines criteria to measure quality at the beginning of the project.	Team solicits ongoing stakeholder input and user feedback by testing products in the field and regularly implementing improvements.
Communication	Project manager continually communicates progress toward milestones and other key indicators to stakeholders, ensuring that the project is on track to meet the customer's expectations.	Team is customer-focused, with consistent communication between users and the project team.
Stakeholders	Project manager continually manages and monitors stakeholder engagement to ensure the project is on track.	Team frequently provides deliverables to stakeholders throughout the project. Progress toward milestones is dependent upon stakeholder feedback.

- Lean Six Sigma is another methodology: it is a mix of LEAN and SIX SIGMA methods.
- The main principle in Lean methodology is the removal of waste within an operation. Today, the Lean Manufacturing methodology recognizes eight types of waste within an operation: defects, excess processing, overproduction, waiting, inventory, transportation, motion, and non-utilized talent. Implement Lean project management when you want to use limited resources, reduce waste, and streamline processes to gain maximum benefits.
- The final concept of Lean uses a **Kanban** scheduling system to manage production. The Kanban scheduling system, or Kanban board, is a visualization tool that enables you to optimize the flow of your team's work. It gives the team a visual display to identify what needs to be done and when. The Kanban board uses cards that are moved from left to right to show progress and help your team coordinate the work.
- **Six Sigma** is a methodology used to reduce variations by ensuring that quality processes are followed every time. The term "Six Sigma" originates from statistics and generally means that items or processes should have 99.9996% quality.
- After both Lean and Six Sigma were put into practice, it was discovered that the two methodologies could be combined to increase benefits. The tools used in Lean, such as Kanban boards and 5S, build quality in processes from the beginning. Products developed using Lean methods are then inspected or tested using Six Sigma standards.
- There are five phases in Lean Six Sigma (DMAIC):
  - Define: goals and find what it takes to reach these goals. This equivalent to the "initiate a project". This phase tells you what to measure.
  - Measure: how the current process performing. It focuses on data, and finds where the problems are. You collect data and measure the process accordingly to find the issue. This phase tells you what to analyze.
  - Analyse: Identify gaps and issues. For example, you find staffing in not adequate. Tells you what to improve
  - Improve: present your findings and get ready to start making improvements. Tells you what to control.
  - Control: is all about learning from the work you did up front to put new processes and documentation in place.
- The project management is can be a mix of these methods. For example, using agile for the big picture tasks, but waterfall for each individual tasks.

Summary: **Popular project management approaches**

Below is a brief recap of some of the project management approaches you've been introduced to so far:

Waterfall is a traditional methodology in which tasks and phases are completed in a linear, sequential manner, and each stage of the project must be completed before the next begins. The project manager is responsible for prioritizing and assigning tasks to team members. In Waterfall, the criteria used to measure quality is clearly defined at the beginning of the project.

Agile involves short phases of collaborative, iterative work with frequent testing and regularly-implemented improvements. Some phases and tasks happen at the same time as others. In Agile projects, teams share responsibility for managing their own work. Scrum and Kanban are examples of Agile frameworks, which are specific development approaches based on the Agile philosophy.

Scrum is an Agile framework that focuses on developing, delivering, and sustaining complex projects and products through collaboration, accountability, and an iterative process. Work is completed by small, cross-functional teams led by a Scrum Master and is divided into short Sprints with a set list of deliverables.

Kanban is a tool used in both Agile and Lean approaches that provides visual feedback about the status of the work in progress through the use of Kanban boards or charts. With Kanban, project managers use sticky notes or note cards on a physical or digital Kanban board to represent the team's tasks with categories like "To do," "In progress," and "Done."

Lean uses the 5S quality tool to eliminate eight areas of waste, save money, improve quality, and streamline processes. Lean's principles state that you can do more with less by addressing dysfunctions that create waste. Lean implements a Kanban scheduling system to manage production.

Six Sigma involves reducing variations by ensuring that quality processes are followed every time. The Six Sigma method follows a process-improvement approach called DMAIC, which stands for define, measure, analyze, improve, and control.

Lean Six Sigma is a combination of Lean and Six Sigma approaches. It is often used in projects that aim to save money, improve quality, and move through processes quickly. Lean Six Sigma is also ideal for solving complex or high-risk problems. The 5S organization framework, the DMAIC process, and the use of Kanban boards are all components of this approach.

Despite their differences, all of these project management methodologies require communication and collaboration among various teams and aim to deliver projects on time and within budget.

Module 4

Understanding organizational structure

- The way a company or organization is arranged. How people are related, and who reports to who.
- Org structure:
  - org chart
  - report chart: relation between people
- Many different organizational chart, two popular ones are:
  - Classic: functional/top-down. This is like a branch of military.
  - Matrix: like a grid, it has direct higher-ups and stakeholders from other departments or programs. The employees have two or more managers.
- How organizational structure affects project management
  - determines the authority. Authority has to do with your ability to make decision for the project that impact the organization.
  - Resource availability: knowing how to access the people, equipment, and budget need for a project.
- In classic structure:
  - Less authority and tighter scope
  - Project manager depends on the managers to approve the resources. Resources determines by the leaders of the department.
  - You need to go through the chain of approvals for resources.
- Matrix structure
  - Employees have two or more managers (functional and project managers)
  - Project manager need to cooperate with more people, chain of command is not as clear in the classic structure.
- Org structure affects how to run and manage a project.
- What is Project management office (PMO): is a group within an organization that defines, sets, and helps maintain project management standards and processes throughout that organization. It often acts as a coordinated center for all of the organization's projects, helping them run more smoothly and efficiently.
- The main functions of a PMO include:
  - **Strategic planning and governance:** This is the most important function of a PMO. This involves defining project criteria, selecting projects according to the organization's business goals, and then providing a business case for those projects to management.
  - **Best practices:** PMOs help implement best practices and processes within their organization. They also share lessons learned from previous successful projects. They help ensure consistency among their organization's projects by providing guidance about processes, tools, and metrics.
  - **Common project culture:** PMOs help set common project culture practices by training employees about optimal approaches and best practices. This helps keep project management practices consistent and efficient across the entire organization.
  - **Resource management:** PMOs are often responsible for managing and allocating resources—such as people and equipment—across projects throughout the organization based on budget, priorities, schedules, and more. They also help define the roles and responsibilities needed on any given project. PMOs provide training, mentoring, and coaching to all employees, but project managers in particular.
  - **Creation of project documentation, archives, and tools:** PMOs invest in and provide templates, tools, and software to help manage projects. They also play an important role in maintaining their organization's project history. Once a project closes, they archive all of the documents created during the project for future reference and to capture lessons learned.

Understanding the impact of organizational culture

- Organizational culture provides context and acts as a guide for what their people value, how they operate on a daily basis, how they relate to one another, and how they can be expected to perform.
- Different ways to define organizational culture. Some definitions emphasize teamwork and innovation, while others focus on attention to detail and achievement.
- Organizational culture:
  - The values employees share, as well as the organization's value, mission, and history.
  - Company's personality
- Understanding an organization's culture will help you navigate your team more effectively toward achieving the project's goal. It also impacts the way you plan your project.
- If you can demonstrate how the project supports the company's mission or how the project aligns with the company's values, you'll have more support from executives and stakeholders to get the approvals and resources you need.
- *Does the management team care about speed over perfection?* How do people within the organization make decisions? Do they thoroughly examine every option for every decision?
- This will help inform which values are the most important to them and how you can approach your decision-making.
- To learn more about organization's culture, consider these questions:
  - How does communication happen? Email or meeting or phone.
  - How are decisions made? Vote or top-down.
  - What kind of rituals are in place when someone new comes to the facility? Lunch, tour of building, introduce to people
  - How are projects typically run?
  - What kinds of practices, behaviors and values are reflected by the people in the organization?
  - Overtime or weekend and expectation?
- **Navigate and understand an organization's culture:**
  - Ask questions: You can learn about an organization's culture by asking questions of management and peers. You might want to ask questions about:
    - **Atmosphere**
      - What is the company's dress code?

        - How do people typically share credit at this company?
        - Is risk-taking encouraged, and what happens when people fail?
        - How do managers support and motivate their team?
        - How do people in this role interact with customers and users?
        - When and how do team members give feedback to one another?
        - What are some workplace traditions?
        - What are some of the ways the company celebrates success?
    - **Policies**
        - What are the policies around sick days and vacation?
        - Does the company allow for employee flexibility (e.g., working from home, flexible working hours)?
        - What policies are in place that support employees sharing their identity in the workplace?
    - **Processes**
        - What is the company's onboarding process?
        - How do employees measure the impact of their work?
    - **Values**
        - What are the company's mission and value statements?
        - How might the person in this role contribute to the organization's mission?
        - How does the organization support professional development and career growth?
- Make observations & **company rituals** Rituals can be powerful drivers of culture. They engage people and help instill a sense of shared purpose and experience.
    - How are birthdays and holidays celebrated?
    - Do employees generally eat lunch at the same time and in the same place?
    - Watch employee interactions**:** Observing how employees interact can help you tailor your interaction style to the company norm.
    - Are employee interactions more formal or informal in nature?
    - Are ideas solicited from employees in different roles?
- Understand your impact

- Organizational culture is critical to the health of a company, the people who work there, and the customers it serves.
- The importance of organizational culture:
    - **Identity:** An organization's culture defines its identity. Its identity essentially describes the way the company conducts business, both internally and externally. A company's values and organizational culture go hand-in-hand; its values are part of its identity. You can almost think of an organization's culture as its personality. That is why it is important to learn your company's (or target company's) mission and value statements. The mission and value statements will help you understand why the company exists and will give you insight into what the company believes in and how it will behave.
    - **People:** Strong, positive organizational culture helps retain a company's best employees. People who feel valued, engaged, and challenged are more likely to give their best and want to drive for success. An organization's culture can help keep talented employees at a company, and it can attract great people too! On the other hand, a toxic culture can have the opposite effect. It is important to find an organization with a culture that fits your personality. One way to find out more about an organization's culture is to talk to the people who work there. You can also take note of the current employees' attire, expressions, and overall behavior.
    - **Processes:** Organizational culture can have direct impacts on a company's processes, and ultimately, its productivity. The organization's culture is instilled throughout the company—from its employees to how its employees do their job. For example, a company that values feedback and employee involvement might have that reflected in their processes by including many opportunities for employees to comment. By allowing employees to feel their voices are heard, this company is adhering to its culture.
- Some aspects of an organization's culture that are directly related to how you will manage projects are communication, decision-making, rituals, previous management styles, and values.
- When a company's culture is aligned with its corporate strategy and goals, the level at which it can perform is impressive.

Understanding change management

- If a deliverable of a project is a new tool/process, you need change management.
- Change management: the process of delivering your completed project and getting people to adopt it. That is smooth roll out of changes and easier adoption.
- Your project's success depends on the adoption and acceptance of your project—whether that entails the launch of a new external tool or a process that will change operations at a production facility. In both cases, the greatest impact of the change will be on the people who use and interact with the product or process that is changing.
- As a project manager, you can think of change management as necessary for the successful outcome of your project. Both change management and project management aim to increase the likelihood of project success.
- When you are thinking about change management as it relates to your project, begin by asking yourself the following questions:
    - How will the organization react to change?
    - Which influencers can affect change?
    - What are the best means of communication?
    - What change management practices will lead to the successful implementation of my project?
- There are many change management strategies. It centers around three core concepts and best practices:
    - Create a sense of ownership and urgency
    - Figure out the right combination of skills and personalities. One effective way of motivating your team is to communicate clearly your vision and approach for the project.
    - Effective communication (transparent, upfront with your plans and ideas, and making information available.
- Best practices for approaching change management:
    - **Be proactive.** Proactive and inclusive change management planning can help keep any potentially impacted stakeholders aware of the upcoming changes.
        - Incorporate change management into your project management steps. For example, you can schedule time during team meetings or create a feedback document to ensure that your team members know there is a place to voice their suggestions and concerns.
        - You can also plan steps towards the end of your project to introduce the deliverable to stakeholders in the form of demonstrations, question and answer forums, or marketing videos. You can factor all of these decisions into your plan so that any potential changes are less likely to impact your timeline. If these

steps have not been built into your plan, you can escalate and stress the importance of a change management plan to your stakeholders.

- **Communicate about upcoming changes.** Communication should occur regularly among impacted stakeholders, the change management team, and the project team. Check in and communicate throughout the project about how the changes will provide a better experience for end users of the project deliverables. In this way, you support the process by providing everyone with the information they need to feel prepared to adjust to changes once the project is ready to launch.
- **Follow a consistent process.** Following a clear change management process helps maintain consistency each time there is a change. The change management process should be established and documented early on in your project to guide how the project will handle change. Your organization may also have an overarching change management plan that can be adopted for your project. This may include when the promotion of the change should happen, when training should occur, when the launch or release will occur, and corresponding steps for each phase of the process.
- **Practice empathy.** Changes are inevitable, but we are often resistant to them. By being empathetic to the challenges and anxiety change can bring, you can support the process in subtle ways.
- **Use tools.** Incorporating tools to assist in the adoption of a change can be very helpful. Here are a few examples you can use on your next project:
  - **Feedback mechanisms**, such as surveys, can capture input from stakeholders.
  - **Flowcharts can visualize the project's development process.**
  - **Culture mapping** can illustrate the company's culture and how the company's values, norms, and employees behavior may be affected by the change.
- Participating in change management involves being empathetic to the challenges of the change management process and supporting necessary changes throughout the project life cycle.
  - How will the organization react to change?
  - Which influencers can affect change?
  - What are the best means of communication?
  - What change management practices will lead to the successful implementation of my project?
- Governance and change management go hand-in-hand. To successfully implement change management, it is essential that you understand the structure and culture of the organization. Effective governance in change management provides clearly defined roles and responsibilities during change.
- Project governance is the framework for how project decisions are made. Project governance helps keep projects running smoothly, on time, and within budget. Project governance involves all the key elements that make a project successful. It tells you what activities an organization does and who is responsible for those activities.
- Effective project governance ensures that an organization’s projects are aligned to the organization’s larger objectives, are delivered efficiently, and are sustainable. This includes:
  - Considering the long- and short-term interests of your organization
  - Making thoughtful decisions about which projects to take on and avoiding projects if you do not have sufficient resources
  - Providing timely, relevant, and reliable information to the board of directors and other major stakeholders
  - Eliciting the input and buy-in of senior managers since they are the decision-makers
  - During the initiation phase, prioritizing clear, reachable, and sustainable goals in order to reduce confusion and conflict
  - During the planning phase, assigning ownership and accountability to an experienced team to deliver, monitor, and control the process
  - During the execution phase, learning from mistakes and adapting to new or improved knowledge

Course 2 : fundamentals of project initiation- June 5

Module 1

Objectives

- How initiate a project
- Identifying project scope, goals, and deliverables
- Measure the success of a project
- Identify stakeholders
- Scoping project tools and resources

Key components of project initiation

- A well-planned initiation results in a strong foundation for your project. It starts once a problem/issue is identified within the organization.
- Stakeholders initiate the project to address specific need for the business. It's your responsibility as the project manager to help identify the project goals, resources, and other details based on initial discussions with the project stakeholders.
- The initiation phase is a crucial time for asking stakeholders the right questions, performing research, determining resources, and clearly documenting the key components of a project. Doing this will help you solidify the scope, or the boundary, of the project.
- Without sufficient understanding of the goals, you might underestimate what resources you need or how long the project might take.
- Proper initiation also helps ensure that the benefits of the project outcomes will outweigh the costs of the project. To determine this, you'll do what's called a cost benefit analysis, which is the process of adding up the expected value of a project (the benefits) and comparing them to the dollar costs.
  - Cost benefit analysis: the process of adding up the expected value of a project (the benefics), and comparing them to the dollar costs.
  - A cost-benefit analysis can minimize risks and maximize gains for projects and organizations. It can help you communicate clearly with stakeholders and executives and keep your project on track.
  - To define Benefits:
    - What value will this project create?
    - How much money could this project save our organization?
    - How much money will it bring in from existing customers?
    - How much time will be saved?
    - How will the user experience be improved?

        - To define Cost:
            - How much time will people have to spend on this project?
            - What would be the one-time costs?
            - Are there any ongoing costs?
            - What about long-term costs?
        - There are intangible benefits and costs, there are gains/costs that are not quantifiable (customer satisfaction, employee satisfaction, employee productivity, branch perception)
        - The process of calculating costs and benefits is also called calculating **return on investment**, or **ROI**. ROI = (Gian – Cost)/Cost. ROI preferrably should be greater than 10%.
- Key components of project initiation
    - Goals: What you have been asked to do and what you are trying to achieve
    - Scope: To define the work that need to happen to complete the project.
    - Deliverables: products and services that you will create for your customer, client, or project sponsor. Can be tangible (software, text book) or intangible (scheduling training sessions)
    - Success criteria: standards by which you measure how successful a project was in reaching its goals.
    - Stakeholders: people who have interest in, and are affected by, the completion and success of a project.
    - Resources: budget, people, materials.
- Once all key components are ready, we need to create project charter: a document that clearly defines the project and its goals, and outlines what is needed to accomplish them.

Module 2

Objectives

- Define and create project goals and deliverables
- Define project scope, what is considered in-scope, out-of-scope, and scope creep
- How to define and measure a project success criteria

Identifying project goals + deliverables

- Project goal: is the desired outcome of the project.
- Need to know what needs to be done, before we start the project, and tell the team what to do, how to accomplish this, and know when you accomplished this.
- A good goal vs a bad goal: how well defined goals are: clear and specific.
- Goals also say how to do what you've been asked to do.
- Project deliverables: the products or services that are created for the customer, client, or project sponsor. This is what gets produced or presented at the end of a task, event, or process. Deliverables help quantify and realize the impact of the project.
- How to set goals-SMART:
    - Specific: what do I want to accomplish, why is this a goal? Who is involved? Where should the goal be delivered? To what degree. To add specificity to goals: look for words that might be subjective or based on an opinion, such as bigger, faster, better.
    - Measurable (to track progress and stay motivated): how much? Many? How will I know it's accomplished?
        - For measuring goals, we need metrics: what you use to measure something (revenue, income, ...).
        - Benchmarks (points of reference)
    - Attainable (objective should be realistic): can it be reasonably be reached (It should be a bit challenging to encourage growth, but not too much not to attainable)? To make sure a goal is attainable, we need to know how it can be accomplished.
    - Relevant: does the goal make sense (fits the organization's strategic plan? Is the goal worthwhile? Is it the right time?
    - Time bound: has a deadline
- **Objectives and Key Results (OKR):** combine a goal and a metric to determine a measurable outcome. It separates the different components of SMART goals and clarify them even further.
    - **Objective:**
        - Defines what needs to be achieved (similar to goals)
        - Describes a desired outcome
    - **Key Results:**
        - The measurable outcomes that define when the objective has been met. Define how you'll know whether or not you've met your objectives.
- OKR levels:
    - Company/organization (usually updated annually): Company-wide OKRs are used to set an ultimate goal for an entire organization, whole team, or department.
    - Department/Team
    - Project level: need to align with and support both company and department-level OKRs.
- Strong **objectives** meet the following criteria. They are:
    - Aspirational
    - Aligned with organizational goals
    - Action-oriented
    - Concrete
    - Significant
- To help shape each objective, ask yourself and your team:
    - Does the objective help in achieving the project's overall goals?
    - Does the objective align with company and departmental OKRs?
    - Is the objective inspiring and motivational?
    - Will achieving the objective make a significant impact?
- **Develop key results**
    - add 2–3 key results for each objective. Key results should be time-bound. They can be used to indicate the amount of progress to achieve within a shorter period or to define whether you've met your objective at the end of the project. They should also challenge you and your team to stretch yourselves to achieve more.
- Strong **key results** meet the following criteria:
    - Results-oriented—**not** a task
    - Measurable and verifiable
    - Specific and time-bound
    - Aggressive yet realistic
    - To help shape your key results, ask yourself and your team the following:
        - What does success mean?
        - What metrics would prove that we've successfully achieved the objective?
- While SMART goals and OKRs have some similarities, there are key differences, as well.

Defining project scope (in-scope, out-of-scope, scop creep)

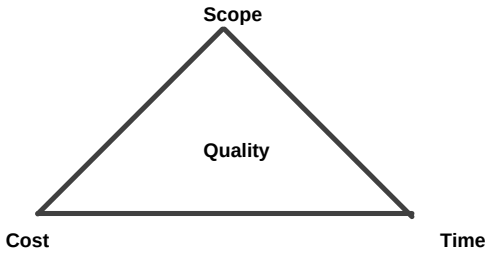
- Project scope defines the boundary of the project. What is included, and what is excluded in the project. It helps your project clearly defined and mapped out (who the project will be delivered to and who will be using the end result of the project). Allows to know the complexity of the project. Scope includes the project timeline, budget, and resources.
- Scoping should happen the project initial planning stage. It helps mitigate the risk the big changes down the line. But the scope can change in the course of the project.
- Document the scope.
- Here are the questions to ask to define the scope (assuming you are a restaurant your manager asks you to remodel the restaurant):
  - **Stakeholders (**Where did this project come from? + Who approves the final results.**)**
  - How did you arrive at the decision to update the dining space?
  - Did the request originate from the restaurant owner, customers, or other stakeholders?
  - Who will approve the scope for the project?
  - **Goals (**Why is it needed?**)**
  - What is the reason for updating the dining space?
  - What isn't working in the current dining space?
  - What is the end goal of this project?
  - **Deliverables (**What is the project expected to achieve?**)**
  - Which dining space is being updated?
  - What exactly needs to be updated?
  - Does the dining space need a remodel?

    Resources
  - What materials, equipment, and people will be needed?
  - Will we need to hire contractors?
  - Will we need to attain a floor plan and building permits?

    Budget
  - What is the budget for this project? Is it fixed or flexible?

    Schedule
  - How much time do we have to complete the project?
  - When does the project need to be completed?

    Flexibility
  - How much flexibility is there?
  - What is the highest priority: hitting the deadline, sticking to the budget, or making sure the result meets all the quality targets?
- In-scope: tasks that are included in the project plan and contribute to the project's goal.
- Out-of-scope: tasks that are NOT included in the project plan and contribute to the project's goal (causes a budget inflation, etc.).
- Scope creep: Changes, growth, and uncontrolled factors that affect a project's scope at any point after the project begins. There are two sources of scope creep:
  - External: customer requests, environment shift, change in technology
  - Internal: product improvements, process changes
- How to avoid external scope creep:
  - Make project plans visible
  - Get clarity on project requirements
  - Set ground rules and expectations for stakeholder involvement
  - Create a plan for dealing with out-of-scope requests.
  - Put all agreements in writing.
- As a project manager, Monitor your project's scope and protect it at all costs. Even the most minor change can mean major risk to your project's success.
- Here are some best practices for scope management and controlling scope creep:
  - **Define your project's requirements.** Communicate with your stakeholders or customers to find out exactly what they want from the project and document those requirements during the initiation phase.
  - **Set a clear project schedule.** Time and task management are essential for sticking to your project's scope. Your schedule should outline all of your project's requirements and the tasks that are necessary to achieve them.
  - **Determine what is out of scope.** Make sure your stakeholders, customers, and project team understand when proposed changes are out of scope. Come to a clear agreement about the potential impacts to the project and document your agreement.
  - **Provide alternatives.** Suggest alternative solutions to your customer or stakeholder. You can also help them consider how their proposed changes might create additional risks. Perform a cost-benefit analysis, if necessary.
  - **Set up a change control process.** During the course of your project, some changes are inevitable. Determine the process for how each change will be defined, reviewed, and approved (or rejected) before you add it to your project plan. Make sure your project team is aware of this process.
  - **Learn how to say no.** Sometimes you will have to say no to proposed changes. Saying no to a key stakeholder or customer can be uncomfortable, but it can be necessary to protect your project's scope and its overall quality. If you are asked to take on additional tasks, explain how they will interfere with the budget, timeline, and/or resources defined in your initial project requirements.
  - **Collect costs for out-of-scope work.** If out-of-scope work is required, be sure to document all costs incurred. That includes costs for work indirectly impacted by the increased scope. Be sure to indicate what the charges are for.
- **Managing** project scope goes hand-in-hand with goal setting. Revision of the goal changes the scope and vice versa. The goal of the project manager is to deliver the project according to the scope (deadline + budget). You need to make compromise as new changes and challenges present themselves.
- In order to decide if a scope change is acceptable and what impact it will have, project managers usually refer to the **triple constraint model:**



  - All three items are related. You can change one, without impacting the others. It is important to realize what trade-off you make as project progresses. To make the changes, you need to know the project priorities, you need to know what is the most important deliverables of the project.

Measuring a project's success (launch or Land)

- The time to decide if a project was successful is not at the end of project, i.e. *project launch*, which is the final result of your project to the client or user.
- *Landing:* Measuring the success of your project using the success criteria established at the outset of the project when setting SMART goals. (like a plane, take off is not a measure of success, you need to know how to land). At landing, you need to make sure your project functions as intended. For most projects, a launch is not a measure of success, but what happens to the product after launch matters. Launches are only a means to an end, and looking beyond the launch is important
- to ensure the launch achieves your overall goals.
- You will often hear companies celebrating the launch of a new product, service, or initiative, and it is important to remember that even when your project is out in the world, your work isn't complete. When working on a project, the goal isn't simply to launch it, but to land it. Landings occur once your project achieves a measure of success.
- A common mistake of many project teams is to "launch and forget" the results. This happens when a project manager delivers the project to the client and the client accepts the project delivery, but the project manager doesn't assess if the project deliverables satisfy the customer or user.
- At the beginning of the project, we need to define the success criteria, which tells you whether or not the project was successful. These are specific details of project goals, deliverables, requirements, and expectations. The standards by which the project will be judged once it's been delivered to stakeholders.
- To define success criteria, means to make the goals measurable, i.e., you need to ask how I know the project is completed (successfully accomplished).
- Determining project Success criteria:
  - Identify the measurable aspects of your project.
  - Get clarity from the stakeholders on the project requirements and expectations (document all the goals, so that you can refer to it later).
- Other factors that can be considered as success criteria:
  - Adoption (metrics): How the customer uses and adopts a product or service without any issues.
  - Engagement (metrics): How often or meaningful customer interaction and participation is over time
- Along each success criteria along the list: include the methods for how success will be measured, how often it's measured, and who's responsible for measuring it.
- Have the appropriate stakeholders sign off on the success criteria.
- Defining your success criteria should create greater alignment within the team and give everybody better visibility into how to achieve success.

Module 3

Exploring project team roles and responsibilities (all about stakeholders)

- Stakeholders: People who are interested in and affected by the project's completion and success.
- Accessibility: actively removing any barriers that might prevent persons with disabilities from being able to access technology, information, or experiences, and leveling in the playing field so everyone has an equal chance of enjoying life and being successful.
- A disability is often defined as a physical or mental condition that substantially limits a major life activity, such as walking, talking, seeing, hearing, or learning.
- In project management, you, yourself, people on your project team, or people highly invested in your project may have a disability, whether visible or invisible. As a project manager, you are responsible for making sure a group of people can come together to achieve a common goal using shared tools and systems.
- Once you lay the foundation for your project by outlining your goals and expectations, it is time to build your dream team. Choosing the right people for a team is a big task. Items to consider:
  - Required roles
  - Team size: depend on the size of the project (as team grows, communication becomes difficult)
  - Necessary skills (skills can be thought, maybe a person brings a positive attitude to the team). Technical skills are valuable, but Interpersonal skills, also known as people skills or soft skills, such as patience and conflict mediation, can help team members. Strong leadership skills help team members navigate organizational boundaries and effectively communicate with stakeholders to generate buy-in.
  - Availability (of the team, maybe committed to other project). This is especially true in matrix organizations, where team members have multiple bosses. you need to value diversity early on when building your team. Team members who understand one another are more likely to trust each other and feel safe sharing different points of view or offer a competing perspective.
  - Motivation (select people who are excited to get the work.) Just because a person is pre-assigned to a project, doesn't necessarily mean they have low interest in it, but a person who proactively volunteered for it may have additional motivation to do the work.
- Project roles in each project:
  - **Project sponsor:** The person who's accountable for the project and who ensures the project delivers the agreed upon business benefits. Sometimes they fund the project. They talk to managers and key stakeholders.
  - **Team members:** people doing the work and making things happen.
  - **Customer/users:** The people who will get some value from a successfully landed project. Customer's need define the project requirements. Customers are the buyers of the project. In some situations, we have both customers and

users for the project. Users are the people that ultimately use the product that your project will produce.
    - **Stakeholders:** Anyone involved in the project who has a vested interested in the project's success. ***Primary stakeholders*** are people who expect to benefit directly from the project's completion, while **secondary stakeholders** play an intermediary role and are indirectly impacted by the project. Primary stakeholders usually include team members, senior leaders, project sponsors, and customers.
    - **Project managers:** The person who plans, organizes, and oversees the whole project.

Evaluating stakeholders

- To analyze stakeholders:
    1. Make a list of all stakeholders.
    2. Determine the level of interest and influence for each stakeholder
    3. Assess stakeholders' ability to participate and then find ways to involve them. some will be **active stakeholders** with more opinions and touchpoints and others will be **passive stakeholders,** preferring only high-level updates and not involved in the day-to-day.
- From the second bullet:
    - Influence: measures how much power a stakeholder has and how much this stakeholder's actions affect the project outcome.
    - Interest: how much are the needs of the stakeholder affected by the project operations and outcomes.
- To do stakeholder analysis, we can use a 2x2 power grid (it is based on interest & influence). Based on this, you can better manage people on the team. Based on this grid, there four different method to manage stakeholders:

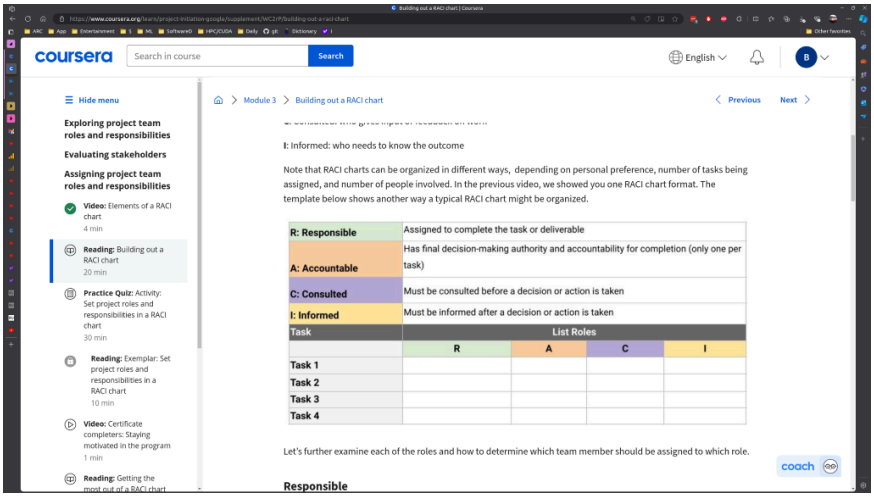
high	Meet their needs – keep satisfied (consult with them, and meet their need)	Key players-manage closely (closely partner with these people: project sponsors, key executives, or regulatory authorities.)
^ | power |	Monitor-not integral to the project	Show consideration (keep them up-to-date & informed to the project)
low	**<-- interest -- >**	high

- Different quadrants:
    - Q1: key players: Responses for this quadrant include:
        - **Engagement and Involvement:**
            - Keep these stakeholders well-informed and engaged throughout the project lifecycle.
            - Involve them in decision-making processes, seeking their input and feedback.
            - Address their concerns promptly and effectively.
        - **Regular Communication:**
            - Schedule regular meetings or updates to keep them informed about project progress and any issues.
            - Tailor communication to their preferences and needs to ensure they remain supportive and engaged.
    - Q2: upper left (high influence, low interest) Stakeholders in this quadrant have high influence but may not be deeply interested in the day-to-day project details. They might include senior managers who need to be informed but may not be actively engaged. Responses for this quadrant include:
        - **Executive Summaries:**
            - Provide high-level summaries of project progress and key decisions for their review.
            - Focus on the impact of the project on organizational goals and objectives.
        - **Periodic Updates:**
            - Provide periodic briefings or updates to ensure they are informed of major milestones and critical project changes.
    - Q3: Bottom right: low influence, high interest.
        - **Regular Updates:**
            - Communicate project progress, risks, and updates to keep them engaged and informed.
            - Address their queries and concerns promptly to maintain their interest.
        - **Stakeholder Feedback:**
            - Seek their feedback on project plans, progress, and outcomes to ensure their perspective is considered.
    - Q4: **Low Influence, Low Interest (Bottom Left)** They might include lower-level employees or departments not directly impacted by the project. Responses for this quadrant include:
        - **General Communication:**
            - Share general updates about the project's overall progress without overwhelming them with details.
            - Address any specific questions they may have, but avoid unnecessary inundation with project-related information.
        - **Minimal Engagement:**
            - Maintain a basic level of communication and engagement to keep them aware of the project without distracting them from their regular responsibilities.
        -
- Project managers need to meet with some people every day, but may but other every often.
- **Stakeholder buy-in**: the process of involving there people in decision making to hopefully reach a broader consensus on the organization's future.

Assigning project team roles and responsibilities

- RACI chart: helps to define roles and responsibilities for individuals or teams to ensure work gets done efficiently.
- There are four types of participation in a RACI chart:
    - **Responsible**: doing the work to complete the task. Every task needs at least one Responsible. Better not to have more than one.
    - **Accountable**: Those making sure the work gets done. Must be only one person. The accountable person ultimately has the authority to approve the deliverable of the responsible party. To find out who is the accountable for a task, you need to ask: Who will delegate the task to be completed? Who will review the work to determine if the task is complete? Sometimes, the responsible party is also accountable, but it is helpful to separate these roles and ensuring that accountability is not shared.
    - **Consulted**: Those giving feedback, like subject matter experts or decision makers. There is no maximum or minimum number of people who can be assigned a “consulted” role, but it’s important that each person has a reason for being there. To find the consulted people for a task, you need to ask: Who will the task impact? Who will

have input or feedback for the responsible person to help the work be completed? Who are the subject matter experts (SMEs) for the task?
    - **Informed**: Those just needing to know the final decisions, or that a task is complete. It is common to have many people assigned to this category and for some team members to be informed on most tasks. Team members or stakeholders here will not be asked for feedback, so it is key to make sure people who are in this group only require status updates and do not need to provide any direct feedback for the completion of the effort. Questions to ask to find people in this category: Who cares about this task's completion? Who will be affected by the outcome?
- To create the RACI chart (4 horizontal cols for R A C I + one row for each task):
    - List of all people involve in the project (use roles instead of names, just in case, one person takes more than one role)
    - List all the tasks for the project and write them as the first column.
    - In front of each task, declare RACI. There should not be more than one person as accountable. The same person might be responsible.
- Overlapping work between tasks is an issue.
- Even though communication is usually a good item, but over communication makes things more complicated. This causes info overload, people don't know what to pay attention.



- Why RACI is important: can be used to determine the workload balance: When you complete your chart, it is a good idea to go back through and tally the number of Rs assigned to each stakeholder. This can help you identify potentially overloading one team member with work. Using a RACI chart to determine responsibility for tasks can help mitigate single points of failure (known as creating **silos**, where the knowledge and responsibility for a task falls on one person) and allow you, as the project manager, to delegate tasks and avoid burnout.
- **When should you use a RACI chart?** evaluate the complexity of the effort. For example, if you have a very small project team with a small number of stakeholders, clearly defined roles, and a short timeline, introducing a RACI chart could possibly slow down the project. However, larger projects, or even projects that involve a large number of stakeholders, could greatly benefit from a RACI chart. It is always a good idea to work through the creation of a RACI chart and evaluate the outcome.
- A few key reasons why projects fail and examine how missteps during the initiation phase can lead to project failure:
    - Unclear expectations
    - Unrealistic expectations
    - Miscommunication: If information is not communicated in a timely manner, does not include pertinent information (risks, decisions made, scope changes, etc.), or is not sent to the correct stakeholders, then you may be setting yourself up for failure.
    - Lack of resources (team members, budget, materials.
    - Scope creep

Module 4

Understanding project resource needs

- Project resources:
    - Budget: An estimate of the amount of money a project will cost to complete.
    - People: those who help execute the tasks of the project.
    - Materials: items you need to help get the project done. Such as computers in a software company.
- It is important to decide about the resources before the project gets rolling.
- To organize resources, we need to use **tools. Tools:** aids that make it easier for a project manager of team to manager resources and organize work.
- Tools allow:
    - Track tasks
    - Manage budgets
    - collaborate with teammates

Developing documentation for project kick-off

- A big part of project management is guiding decision making. Even if the project manager is not the one making final decisions on major aspects of the project, it's still your job to keep track of every new decision and use those decisions to create a plan. That is why documentation is a big part of project management role.
- The items to reflect in the documentation (for launch):
    - What problem are you trying to solve?
    - What are the project goals?
    - What are the scope and deliverables, and who are the project's stakeholders?
    - What resources do they need to complete their work?
- Documentation also helps preserve decisions made early on in the project and can serve as a reference point for team members who might join later in the project life cycle.

- There are two types of project documentations:
  - Project proposals
  - Project charters
- **Project proposal** (comes at the very beginning of the project): a form of documentation that persuades a stakeholder to begin a project. A project manager may not write the proposal, but will keep track of the proposal. A proposal, might be a formal documentation, a presentation, or even a simple email. The proposal kicks off the initiation phase by influencing and persuading the company to move forward with the project.
- **Project charter:** A formal document that clearly defines the project and outlines the necessary details needed to reach its goals. A project charter helps you get organized, set up a framework for what needs to be done, and communicate those details to others. The project charter serves a similar purpose and often comes at the end of the initiation phase. However, its goal is to more clearly define the key details of the project. A charter will often serve as a point of reference throughout the life of a project.
- The project charter makes clear that the benefits of the project outweigh the costs. You include the answer to the cost benefit analysis in the charter: Business value created, money saved, and time invested for this project. The charter also helps ensure that you and your stakeholders agree on the details of the project. Project charter approval means that management is supportive, and it's also a key step to ensure that the project matches the needs of the organization.
- Project charters can formatted in different ways, or contain different information. The project charter is a living document and it can evolve as the project progresses.
- Project charters will vary but usually include some combination of the following **key information**:
  - **introduction/project summary** (the goal of the summary is to provide an overview of the project and to outline the goals you hope to accomplish-brief, a few sentences at most)
  - **goals/objectives** (desired results of the project – address the overall result that stakeholders are aiming to achieve. They are determined by input from stakeholders and the project manager.)
  - **Deliverables** (refer to the specific tasks and tangible outcomes that enable the team to meet project goals)
  - business case/benefits and costs
  - project team
  - **Scope** (refers to the boundaries of a project)
  - success criteria/measure of success
  - major requirements or key deliverables
  - Budget
  - schedule/timeline or milestones
  - constraints and assumptions
  - Risks
  - OKRs
  - approvals

- The project charter is also an alignment tool. Alignment: reaching agreement between two or more parties. A common cause of project failure is misalignment among stakeholders about the details of the project. Misalignment can also happen between you and your stakeholders when you have differing visions for the project.
  - Align with your stakeholders before the work begins.
  - Take time during the initiation phase to create a project charter that clearly lays out the details of a project. Usually the initiation phase is the ideal time to make changes in the project.
  - When presenting a project charter to stakeholders:
    - Collect feedback
    - Identify where there are misalignments.
    - Make changes to address those misalignments.
  - Documenting misalignments and their resolutions in the project charter allows you to reference those decisions later on. This can go in the appendix.
- There are many online project charter templates.

Utilizing tools for effective project management

- Tools can help track detailed information about all kinds of tasks and make it easy to communicate with lots of different people.
- Project management tools help you:
  - Track task deadlines
  - Provide visibilities to others
  - Manage a budget
  - Create helpful diagrams

    - Manage contracts
- For small projects, simple tools might be good enough, but for larger projects, teams may have to spend some time to learn more sophisticated tools.
- In some cases, we don't have the option to choose the tools, and we have to use organizational tools.
- Introducing new tools to a team:
    - **Discuss the tool early and often, if possible.**
    - **Ask for feedback from key stakeholders.**
    - **Involve the key stakeholders in demonstrations as you get closer to making the final decision on the project tracking tool.**
    - **Ensure the tool is fully functional before the team is introduced to it.**
    - **Set up training for the tool as needed before you ask the team to actually use it.**
- **Different types of tools:**
    - **Scheduling & work management:** Jira,
    - **Productivity and collaboration:**
        - Online shared document
        - Meeting agendas
        - Status updates
        - Spreadsheets
        - RACI charts
        - Project Plan
        - Presentations
        - Project overviews
        - Email and chats

Course 3 : Project planning: putting it altogether – Started on July 3, 2024

Module 1

- **Objectives**
    - Kicking off the planning phase
    - Setting and reaching milestones and identifying tasks
    - Budgeting process
    - Identifying and planning for risk
    - Documentation

Understanding project resource needs

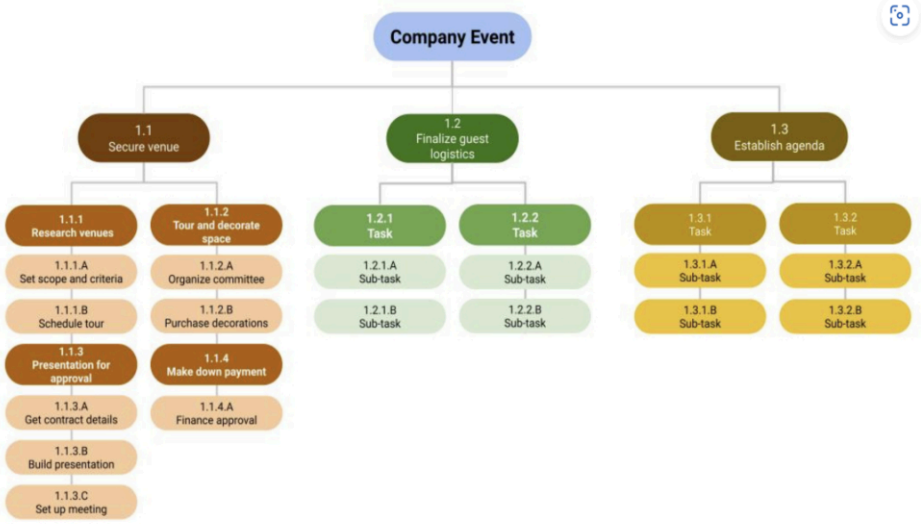
- During the initiation phase
    - Project manager gets assigned
    - Project goals, scope, and deliverables have to be approved
    - Team members get assigned
    - Sign off your project charter
- Next step is planning. **Benefits of planning:**
    - Understand the work needed to achieve your goals
    - Coordinate efforts and timelines with other teams, contractors, and vendors
    - Identify and plan for risk
    - Get buy-in from key members of the project team (getting their supports for your plans)
    - Demonstrates to stakeholders that the team is taking care to start the project with a delighted plan
- Project plan don't have to be perfect at the beginning. Anyways, it is likely that the project goals will change at the course of the project.
- Three major items in planning
    - Schedule: the project timeline, which includes the start date, the end date, and dates for events in between
    - Budget: total cost to complete the budget
    - Risk management plan: searching for possible problems related to the project and planning ahead to mitigate these risks.
- Kick-off meeting: it is important to schedule a formal meeting that serves as the start to project planning. It is the first meeting in which a project team comes together to ground everyone in a shared vision, gain a shared understanding of the project's goals and scope, and to understand each person's individual roles within the team.
- People in the kick-off meeting: all people in the RACI chart (project team, project stakeholders, project sponsor).
- Why kick-off is important:
    - Establish a shared vision
    - Align on scope
    - Build team rapport
    - Ask questions and offer insights
    - Set expectations on how each person contribute to the project
- Kick-off meeting agenda:
    - Introduction
        - Team members individually talk
        - Project roles
        - Fun facts
    - Background of the project
        - How the project came to be
        - Why the project matters
        - Set a shared vision
    - Sharing the goals and scope
        - In-scope
        - Out-of-scope
        - Target launch date
        - Milestones
    - Roles:
        - What work everyone is responsible for throughout the duration of the project

    - Collaboration
        - Shared project tools and documents
        - Communication expectations
    - What comes next
        - Action items to take next
    - QA
        - Gain clarity on meeting topics
        - Ensure the project benefits from diversity of thoughts experiences and ideas.
- Create (or ask someone) to summarizes the team meeting.
- Send a follow-up email, that summarizes the key points and outcomes from the meeting, and any action items to the attendees.
- Invite attendees to reach-out if they have additional questions.
- If you are recording, ask people if there is any objection.
- **Kick-off meeting best practices**
    - **Set the right time.** Choose a meeting time that works for everyone. Be mindful of time zone differences.
    - **Set the right length.** Choose an appropriate meeting length—no more than one hour. You don't want to waste people's time, but you also don't want to run out of time. Kick-off meetings work best when you first share key information and then spend any additional time on questions and team building.
    - **Invite the right people.** Be strategic about including the appropriate people. The goal is to invite attendees who play a role in the development and execution of the project, such as all team members, stakeholders, and the project sponsor. You don't want to leave anyone out, but you also don't want to invite people who shouldn't be there.
    - **Designate a notetaker.** The discussion that takes place during the meeting is important. It is critical that you document any feedback, changes, or questions asked by attendees. If you are leading the meeting, designate someone else to take notes before the meeting starts. You can also use tools like Chorus Notetaker, Google Keep, Google Docs, or Microsoft OneNote.
    - **Set the agenda.** To recap what we discussed in the video, a kick-off meeting agenda should generally include: introductions, the project background and purpose, project goals and scope, roles and responsibilities, the collaboration process and project tools, what comes next (expectations and action items), and time for questions and discussion.
    - **Share the agenda**. Prior to the meeting, share the agenda with attendees via email and identify speakers for each topic. By sending the agenda in advance, everyone will have an idea of what to expect, time to prepare for anything they may need to present or discuss, and time to generate questions or ideas.
    - **Stick to the agenda**. During meetings, discussions can sometimes go off topic or take longer than expected. As a project manager, it is your job to keep the meeting on track by redirecting discussions to the items on the agenda.
    - **Follow up after the meeting**. After the meeting, make sure to send out a meeting summary featuring the meeting notes and any action items.

Defining tasks and milestones

- **Milestone:** An important point within the project schedule that indicates progress and usually signifies the completion of a deliverable or phase of the project. These are checkpoints of the project.
- **Project task:** an activity that needs to be accomplished within a set of period of time and is assigned to one or more individuals. The work of the project is broken down into many different tasks. To reach a milestone, you need to complete multiple tasks.
- Set tasks to identify milestones:
    - **Top-down scheduling:** In this approach, the project manager lays out the higher-level milestones, then works to break down the effort into project tasks. The project manager works with their team to ensure that all tasks are captured.
    - **Bottom-up scheduling:** In this approach, the project manager looks at all of the individual tasks that need to be completed and then rolls those tasks into manageable chunks that lead to a milestone.
- Why setting milestone is important:
    - Setting milestones gives you a clear understanding of the amount of work your project will require.
    - It forces you to break the project down into more manageable chunks. (deliverables -> milestones -> tasks)
    - Milestones, keep your project on track.
    - Milestones help uncover areas where you might need to adjust scope, timelines, or resources to meet your goals. For example, if you realize that reaching a milestone will require more tasks than you'd anticipated, you might ask a stakeholder for permission to reduce the scope of the project and cut down on the number of tasks.
    - Reaching milestones can seriously motivate your team, and illustrate real progress to your stakeholders.
    - Milestones also serve as great check-in point to highlight your progress to stakeholders.
    - Milestones must be completed on time and in sequential order.
- If you fail to complete a deliverable tied to a specific milestone, it could set back your project schedule. We may need additional resources or team need to do extra work to catch up.
- How to set milestones:
    - The first step to setting a milestone is to evaluate your project as a whole.
    - Then, make a list of tasks, to achieve the goals.
    - The big items that indicate progress are your milestones. Signifies major deliverables or phases in the project.
    - Smaller items that stakeholders don't need to review.
- Once you defined the milestones, the next step is to assign each one a deadline. Give the team a fair amount of time.
- When determining deadlines for milestones, you'll also want to consider the needs of your stakeholders.
- **Milestone-setting pitfalls**
    - **Don't set too many milestones**. When there are too many milestones, their importance is downplayed. And, if milestones are too small or too specific, you may end up with too many, making the project look much bigger than it really is to your team and stakeholders.
    - **Don't mistake tasks for milestones**. Remember that milestones should represent moments in time, and in order to map out how you will get to those moments, you need to assign smaller tasks to each milestone.
    - **Don't list your milestones and tasks separately.** Make sure that tasks and milestones can be visualized together in one place, such as a project plan. This will help ensure that you are hitting your deadlines and milestones.
- How to account for the many tasks that ladder up to each milestone. This is happening through Work Breakdown Structure (WBS).
- WBS: a tool that sorts the milestones and tasks of a project in a hierarchy, in the order they need to be completed. We can use a spreadsheet and on column A, we define all the milestones, then in front of each milestone, we define the

tasks required to do achieve this milestone. After preparing WBS:
    - You need a set of discrete project tasks that ladder up to each of your milestones.
    - Team members assigned to each task (consider familiarity with the task, teammate's workload, share the task/workloads evenly, between the teammates).
    - Ensure that teammates are clear on their assigned tasks.
    - Start each task with a verb
    - Assign deadline to each task.
- Assigning tasks to team members has some benefits: Assigning tasks creates a sense of personal responsibility for members of the team. Good to create overall team rapport.



Module 2: components of project plan

- **Objectives**
    - Why it is necessary to create and manage a project plan.
    - Definition of a project plan, and what goes into it (schedule, etc.)
    - How to use time estimation methods to prevent project failure
    - Tools and best practices you can use to build a project plan
    - Examine tools and best practices you can use to build a project plan
- Project plan helps document the scope, tasks, milestones, budget, and overall activities of the project in order to keep the project on track.
- Center of project plan is project schedule (amount of time required to complete the project).
- Project plans contain these five basic elements:
    - tasks,
    - milestones,
    - People: each team member should understand their role and tasks.
    - Documentation: link all project documents, such as RACI charts, project charter, budget and risk management plan.
    - Time: includes dates on which a task should start and end, plus milestone dates.
- Project plan includes the following items:
    - Scope and goals (through the project charter in the documentation)
    - Work Breakdown Structure (and RACI): through tasks.
    - Budget through documentation
    - Management plans
- Previous project plans:
    - ask a colleague with experience launching other products for the same company to share their project plan as an example.
    - Ask colleagues about unrelated projects that also had similar components.
    - Provide helpful inspiration as you create your own list of tasks.
    - Identify possible task durations, subject matter experts, and suppliers.

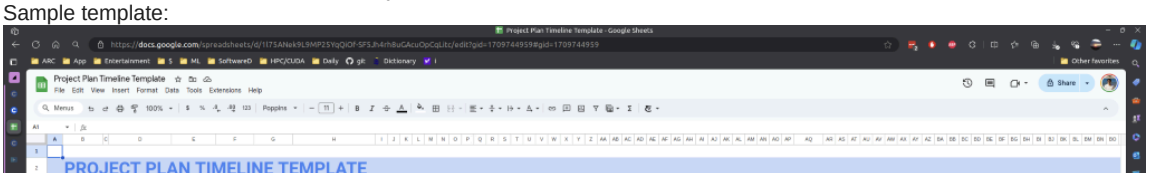
Estimation to set project timelines

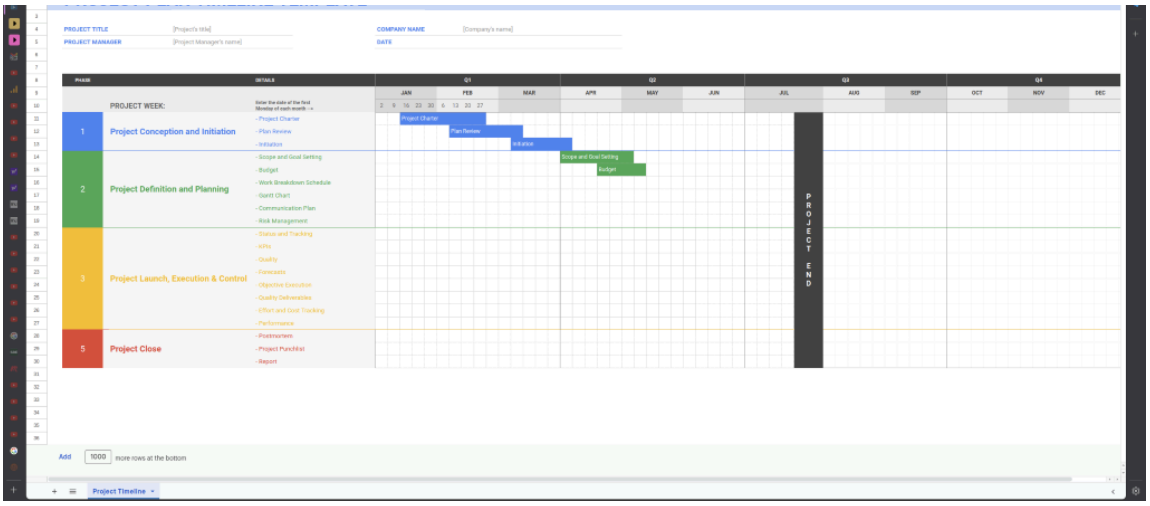
- **Time estimation:** A prediction of the total amount of time required to complete a task.
- **Effort estimation:** a prediction of the amount and difficulty of active work required to complete a task. This is the actual time required to do a task.
  For example, the effort time for paining a wall is 30 mins (effort estimation), but it takes a day for the paint to dry (time estimation). Tuning may take one day, but submitting the PR and CI tests, will take two days (total of three days).
  It's important to understand the difference between time estimation and effort estimation, because it can help you be more efficient with your available resources. If there's idle time baked into a given task, your teammate is effectively free to do other things.
- Unrealistic effort estimates happen when you've underestimated the amount of time it'll take to complete a task. Don't be too optimistic that the project goes exactly as it plans.
- Your teammate will have the most realistic understanding of the amount of work required to complete a task, and will be able to provide you with the best estimate.
- Consider sub-tasks in your planning: sub-tasks are smaller tasks that are required to complete a larger task.
- An estimate might not be very accurate. You need to use a **buffer** in the planning phase, to protect against inaccurate effort estimates.
- **A Buffer**: Extra time added to the end of a task or project to account for unexpected slowdowns or delays in work progress. Using a buffer, your project shouldn't fall off track when task delays inevitably arise.
- **Two types of buffers:**

    - Task buffers: extra time tacked on to a specific task. This should only be used for tasks that are out of project's control & task buffers should be used more sparingly for tasks within the project team's control (maybe for tasks with elements of unpredictability).
      Adding a buffer to every project task could lengthen your project schedule unnecessarily.
    - Project buffers: Extra time tacked onto the end of a project.
- **Planning fallacy and optimism bias:** our tendency to underestimate the amount of time it will take to complete a task, as well as the costs and risks associated with that task, due to **optimism bias**. Optimism bias is when a person believes that they are less likely to experience a negative event.
- Being on the lookout for “what-ifs” is a key project management skill. Considering situations that could affect whether or not the project is completed on time can help you overcome the planning fallacy.
- Finding the right amount of people to get a project done. This is based on capacity planning.
- **Capacity:** The amount of work that the people or resources assigned to the project can reasonably complete in a set period of time (a person can only do so much).
- **Capacity planning** refers to the act of allocating people and resources to project tasks, and determining whether or not you have the necessary resources required to complete the work on time. Based on this analysis, you can decide whether you need more people or not.
- How do you decide where a teammate should focus their priorities and make the most of their capacity? You can prioritize their time by plotting the critical path of your project timeline. A: **Critical path.**
- Critical path: the list of project milestones you must reach in order to meet the project goal on schedule, as well as the mandatory tasks that contribute to the completion of teach milestone. Basically, all must-have tasks, not nice-to-have tasks. In other words, your critical path, includes the bare minimum number of tasks and milestones you need to reach your project goals.
- To find the critical path, list all tasks required to complete the project and the milestones they feed into. Then, form the Work Breakdown Structure, then determine which taskson the list absolutely can't begin until another task is complete. This is called dependency. Then, you'll work with the team to make time estimates for each task and map each task from start to finish. The longest path is your critical path. You need:
    - You need to know which tasks can happen in parallel and which tasks must happen sequentially.
    - Determine which project tasks have **a fixed start date** (a start date, on which you must start work on your task in order to achieve your goal. Identifying whether or not your tasks have fixed start date can help with capacity planning bcs it helps ensure that you'll have the right number of people available to complete tasks on time.
    - Some task might have an early start date (earliest time you can begin working on a task).
    - Identify if a task has float (also called slack). Tasks on the critical path should have no floats.
- You can also calculate the critical path using two common approaches: the **forward pass** and the **backward pass**. These techniques are useful if you are asked to identify the **earliest and latest start dates** (the earliest and latest dates on which you can begin working on a task) or the **slack** (the amount of time that task can be delayed past its earliest start date without delaying the project).
    - The **forward pass** refers to when you start at the beginning of your project task list and add up the duration of the tasks on the critical path to the end of your project. When using this approach, start with the first task you have identified that needs to be completed before anything else can start.
    - The **backward pass** is the opposite—start with the final task or milestone and move backwards through your schedule to determine the shortest path to completion. When there is a hard deadline, working backwards can help you determine which tasks are actually critical. You may be able to cut some tasks—or complete them later—in order to meet your deadline.
- Getting accurate time estimate from your team. This requires soft skills: personal characteristics that help people work effectively with others.
- Soft skills for accurate estimation:
    - Asking the right questions: asking effective, open-ended questions (not yes and no questions). Example
        - How long does it typically take you to mockup a website design like this one?
        - How complex is the task?
        - What are the risks associated with this task?
        - When do you think you can have this ready.
    - Negotiating effectively. This is to make the team member make your project the priority. Asking follow-up questions to reduce the estimate.
    - Practicing empathy: a person's ability to relate to the thoughts and feelings of others. Ask about workload, and work-life balance. Ask about vacation or leave.

Utilizing tools to build a project plan

- An anchor of a good project plan is a clear schedule, containing all tasks of a project their owners, and when they need to be completed.
- You can use excel to create the plan.
- One useful tool to build a project chart is the **Gantt chart**: a horizontal bar chart that maps out a project schedule. Gantt charts are a highly visual representation of a project's tasks, with clear breakdowns of who's responsible for the work and when those tasks are due. Gantt charts are like calendars, they feature the start and end date of a task.
- 5 best practices for building a great project plan:
    - Carefully review deliverables, milestones, and tasks
    - Give yourself time to plan
    - Recognize and plan for the inevitable: things will go wrong
    - Stay curious: you are no expert in all topics, ask lots of questions from the teammate, to learn more about the process.
    - Champion your plan: can your teammates use the tool you used to build your plan? Is the information clear enough for your stakeholders? Will using this plan as a single source of truth save your team and stakeholders the time and energy when they need to find information on the project? If the answer is yes to all questions, then you are on the right track.
    - Use a task ID for each task, to easily refer to the tasks
- Sample template:





Module 3: managing budgeting and procurement

- **Objectives**
  - How to create and manage a real-world project budget
  - Discuss the components of a budget and how stakeholders play a role in the budgeting process
  - Learn about the importance of procurement in project management
  - Learn about vendor management and procurement in Agile and traditional methodology setting.

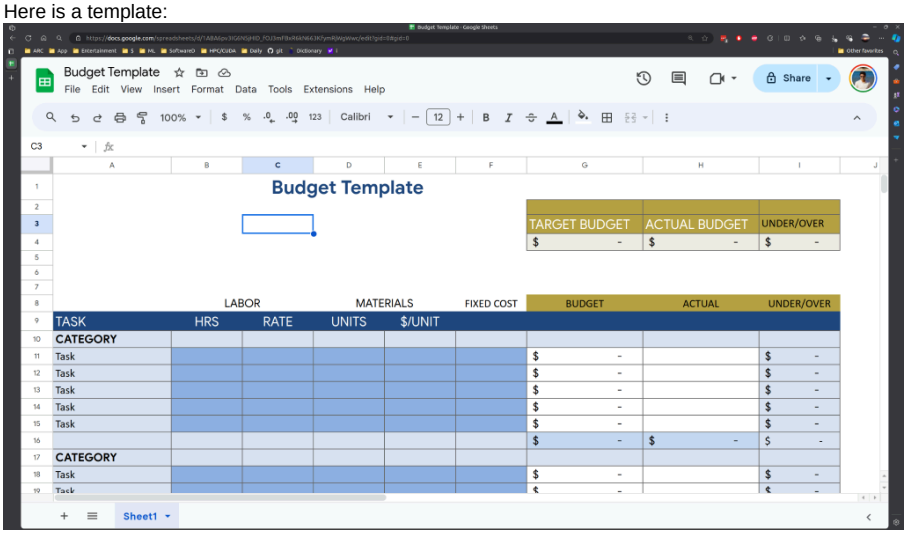
Understanding project budgets

- Project budget: The estimated monetary resources needed to achieve the project's goals and objectives.
- Project managers break the budget by milestones. This ensures that you calculate the correct expenses for a particular period of time (this is considered a forecast).
- Forecast is a cost estimate, prediction over a period of time.
- You need to frequently review and update your budget and it will evolve throughout the project life cycle.
- In project management, a budget is considered a deliverable, not a tool to save money. It is a success metric.
- Budget is a tool to communicate what is needed and when it is needed with the stakeholders.
- Budget creation happens in the initiation phase of the project and in conjunction with the scheduling process.
- This is important because you won't be able to continue with some of your deliverables or action items, if you don't know how much certain activities will cost, and whether you have the necessary funds available.
- Budgeting is not a one-size-fill-all operation and as the project manager, you will have to prioritize where you allocate funds within the project to ensure maximum output.
- Goals of most projects:
  - Improve workforce productivity
  - Increase revenue,
  - Save cost
- You should not go over or under the budget, because that affects how your project is funded next year, and it may leave you with less money next year. A project manager must show the requested amount of money was used in order to secure enough budget for future projects.
- When creating a budget:
  - Understanding stakeholder needs: (their expectations).
  - Budgeting for surprise expenses:
  - Maintaining adaptability
  - Reviewing and reforecasting throughout the project
- Several factors to consider when creating a budget:
  - Forecast: a cost estimate or prediction that helps you calculate the correct expenses for a particular time period.
  - Resource cost rates (cost of resource such as labor, tools, equipment, materials, software)
  - Reserve analysis: account for any buffer funds you may need. It is a method to check for remaining project resources. Review all potential risks and see if you need buffer funds.
  - Contingency budget: Money that is included to cover potentially unforeseen events that aren't accounted for in a cost estimate. This is to compensate for the uncertainty that occurs in cost and time estimates, as well as unpredictable risk exposure.
  - Cost of quality: Costs that are incurred to prevent issues with products, processes, or tasks. It includes:
    - prevention costs,
    - appraisal costs,
    - internal failure costs,
    - external failure costs.
- Categorize different types of costs
  you may need to account for both **direct costs** and **indirect costs** in your project budget. Categorize these different types of costs in your budget so that you can ensure you are meeting the requirements of your organization and customer.
  - **Direct cost**: These are costs for items that are necessary in order to complete your project
    - Wages and salaries of employees and contractors
    - Materials costs
    - Equipment rental costs
    - Software licenses
    - Project-related travel and transportation costs
    - Staff training
  - **Indirect cost:** costs for items which do not directly lead to the completion of your project but are still essential for the project team to do their work. They are also referred to as **overhead costs:**

    - Administrative costs
    - Utilities
    - Insurance
    - General office equipment
    - Security
- Develop a baseline budget: A **baseline budget** is an estimate of project costs that you start with at the beginning of your project. Once you have created a budget for your project and gotten it approved, you should publish this baseline and use it to compare against actual performance progress. This will give you insight into how your project budget is doing and allow you to make informed adjustments. It is important to continually monitor your project budget and make changes if necessary. Be aware that budget updates can require the same approvals as your initial budget. Also, you should “re-baseline” your budget if you make significant changes. Re-baselining refers to when you update or modify a project's baseline as a result of any approved change to the schedule, cost, or deliverable content. For example, if you have a significant change in your project scope, your budget will likely be impacted.

Managing a project budget

- There are techniques to ensure you are not underestimating or overestimating.
    - Historical data: review past projects to get an idea-See what past project managers did right and wrong.
    - Leverage experts: gather expert insights to use those more effectively. Reaching out to colleagues who did similar projects in the past. If you are getting advice from external people, make sure you don't share any confidential info.
    - Bottom-up: Think about all the parts of the project from the beginning to the end. Make a list of everything and adding all of that together.
    - Confirm accuracy: double check all number
    - Baseline: Your baseline is the dollar amount that you'll use to measure against, to find out if you're on track or not, and to measure the success of your project.
- Creating a thorough budget is important to the success of your project. In the bottom-up approach:
    - Break project into tasks
    - Estimate cost of each item (account also for material costs, employee allocation, equipment, etc.)
    - Add estimates together
    - Add contingency and tax
    - Seek approval from key stakeholders
- You also need fixed costs that won't change during the project (job advertisements)
- Travel expenses and meals
- Add buffers and reserves
- In the budget, you also need a planned cost vs actual cost.
- Every project has an estimated cost and the final cost.
- Here is a template:



- Maintaining a project budget (being under or over budget): check on the budget regularly. This is important to enforce accountability.
- By monitoring your budget regularly, you check if the plans you set into action are actually being implemented on both a financial and operational level.
- Milestones are a great opportunity to re-review the budge, to identify if anything needs to be reset or revisited throughout the project. These are checkpoints.
- Cost control: practice where a project manager identifies factors that might impact their budget and then creates effective actions to minimize variances. This is proactive budget management.
- To control the cost:
    - Establish a sign off plan and inform the appropriate stakeholders of any changes that occur. For example, you shouldn't approve a new cost or item if it hasn't been agreed upon or if it isn't within the scope, and you shouldn't be spending money if it's not pre-approved by your stakeholder or project sponsor.
    - Mange changes as they made (track everything).
    - Accept that budget misses will happen
        - Overbudget causes the company to have less money for other projects/items.
        - Underbudget is not a good sign, means the project manager did not do a good job at initial estimating. It is an indicator of less than satisfactory project management. Underbudget may means you could have possibly had extra resources or better quality output. The company may get the impression that if you can do this project under budget, you can do future projects under the budget as well.
    - Adequately account for, adapt, and manage your budget with that risk in mind.
- Budget challenges:
    - **Budget pre-allocation:** You may encounter situations where your budget is already set before you even start the project. Some organizations follow strict budgeting cycles, which can lead to cost estimations taking place before the scope of the project is completely defined. If you are given a pre-allocated budget, it is important to work with

your customer to set expectations on scope and deliverables within the allocated budget. To deliver a great product within your allocated budget will require detailed planning.
    - **Inaccurately calculating TCO (total cost of ownership):** underestimating the **total cost of ownership (TCO)** for project resources. TCO takes into account multiple elements that contribute to the cost of an item. It factors in the expenses associated with a product or service over its lifetime, rather than just upfront costs. For example for a car, buying cost, registration, insurance, gas, maintenance. The same applies to budgeting of a project.
    - **Scope creep:** when changes, growth, and other factors affect the project's scope at any point after the project begins.
- Budget terms:
    - **Cash flow** is the inflow and outflow of cash on your project. As a project manager, this is important to understand because you need **funding** (cash into your project) to keep your project running.
- CAPEX and OPEX
    - Organizations have a number of different types of expenses, from the wages they pay their employees to the cost of materials for their products. These expenses can be organized into different categories. Two of the most common are **CAPEX (capital expenses)** and **OPEX (operating expenses)**.
        - CAPEX (capital expenses) are an organization's major, long-term, upfront expenses, such as buildings, equipment, and vehicles. They are generally for assets that the company will own and keep.
        - OPEX (operating expenses) are the short-term expenses that are required for the day-to-day tasks involved in running the company, such as wages, rent, and utilities. They are often recurring.
- **Contingency reserves** Sometimes, a project hits a snag and incurs additional expenses. One way to prepare for unplanned costs is by using **contingency reserves**. Contingency reserves are funds added to the estimated project cost to cover identified risks. These are also referred to as **buffers**. To determine the amount of your contingency reserves, you will need to go through the risk management process and identify the risks that are most likely to occur.
- **Management reserves:** While contingency reserves are used to cover the costs of identified risks, **management reserves** are used to cover the costs of unidentified risks. For example, if you were managing a construction project and a meteor hit your machinery, you could use management reserves to cover the costs of the damage. Contingency reserves are an estimated amount, whereas management reserves are generally a percentage of the total cost of the project. To determine a project's management reserves, you can estimate a percentage of the budget to set aside. This estimate is typically between 5–10%, but the amount is based on the complexity of the project.

Intro to Procurement:

- **Procurement:** obtaining all of the materials, services, and supplies required to complete the project.
- **Vendors:** Individuals or businesses who provide essential goods and services.
- You search for vendors when a skill does not exist within the company.
- Vendor management (not every project requires vendors):
    - Sourcing vendors
    - Getting quotes for vendors' work
    - Deciphering which vendors will fulfill your needs
    - Negotiating vendor contracts
    - Setting deadlines for vendors
    - Evaluating performance
    - Ensuring vendors are paid
- Not every single project require procurement, but prog manager should be ready if the needs come up.
- There five step for the procurement process:
    - **Initiating**: planning process of defining what help you may need outside of your current resources to hit the project goals. Once you've decided which items you need to outsource, compare each of those items specifications, components, quality measurements, standards, and characteristics with your project's requirements.
    - **Selecting**: deciding what supplies you need and which vendors you'll go through. Research and assess various vendors and suppliers, and try to find out if your preferred vendors have a reputation for delivering quality work on time.
    - **Contract writing**: developing, reviewing, and signing the contracts. Requires excellent attention to detail. Whether the contract is written by you or by the vendor, you will almost always want to consult with a legal and compliance team to ensure that everything in the contract is ethical and legal.
    - **Control**: when you make payment, set up logistics and requirements to maintain quality, and ensure the service agreement is being met.
    - **Completion**: measure the success of the procurement. Ask: Were the materials created good quality? Were there any issues with labor contracts? How were your relationships with vendors?
- There are differences in procurement in the context of Agile and versus traditional.
    - Agile procurement management (can change more easily than traditional method- the team reviews deliverables on a recurring basis and consistently addresses feedback):
        - collaborative with both the project team and the end supplier
        - Emphasis on the relationship between these parties
        - Project team plays a larger role in identifying what needs to be procured
        - Rather than featuring contracts that are based on fixed deliverables, agile procurement management tends to have a living contract that can be adapted based on the evaluation of the project.
        - You should have a good relationship with the suppliers as you may need to renegotiate the contract at multiple points during the project.
    - Traditional procurement management:
        - Focus on standard contracts with clear terms and deliverables
        - Project manager may be responsible for end-to-end procurement
        - Contracts may feature lengthy and extensive documentation. Basically you outlined clearer workstreams and may not have to pay for unpredictable changes.
        - It is much more protected from unforeseen circumstances and may not have to pay for unpredictable changes.
        - You won't necessarily have the room to negotiate contracts if something changes, and you may have start over.
- Procurement documentation:
    - Non-Disclosure Agreement (NDA) at the initiating phase: a document that keeps confidential information within the organization. It is fixed during the project.
    - Request For Proposal (RFP) at the selecting phase: a document that outlines the details of the project. This is to solicit bids from vendors. It is fixed during the project.

- Statement Of Work (SOW) in contracting phase: sent after the vendor is selected. It is not fixed and it evolves as the project goes on.
  A document that clearly lays out the products and services a vendor or contractor will provide for the organization. A description of the needs and the requirements. What is expected from the vendors and contractor.
  Project managers often consults with **Subject Matter Experts (SMEs)** for feedback.

Navigating procurement challenges:

- How you can get support from other departments and team members as procurement goes forward.
- You need to constantly evaluate the terms of the contract with vendors. You can get help from the legal department.
- Importance of ethics when partnering with vendors. There is a lot that can be done to ensure that businesses are operating in an ethical way.
- There are a couple of steps to safeguard ethical procurement.
  - First, knowing your business' legal requirements.
  - Project Manager Institute (PMI) has a code of ethics that you can access as a member of credential holder.
  - Honesty, responsibility, respect, and fairness are the values that drive ethical conduct for the project management profession. If some terms are not clear, don't hesitate to ask the legal team.
- An **ethical trap** is an ethical dilemma that causes us to make a certain decision without regard for our ethical principles. You may face ethical traps throughout the course of a project. However, ethics can be of particular concern when it comes to procurement. Potential unethical risk (ethical traps):
  - Bribery or corruption (depends on the country rules)
  - Sole-supplier sourcing: In some scenarios, you may need to perform non-competitive procurement, which is when a company restricts the bidding process to one supplier. With **sole-supplier sourcing**, vendors may reach out to buyers before a bid is even requested. When the buyer's organization decides to work with that vendor based on their previously-established relationship, that limits competition before the bidding has even begun. When this happens, companies and the public miss out on the advantages of competition, such as reasonable pricing, product quality standards, or speedy delivery options.
  - Interaction with state-owned entities: Government agencies may have tighter restrictions and regulations in regard to sourcing, and you don't want to do anything unethical without even knowing it
- To avoid ethical traps:
  - Understand the legal requirements for your procurement (depends on the country).
  - Stick to your ethical codes. Check PMI code of ethics.
  - Test your ethics: ask yourself: **Shame:** Would you be ashamed if someone knew what you did? **Community:** Would you want your friends to know the decision you made? **Legal:** Would you face legal action if you took this action? **Situation:** Would your actions be justified in this situation? **Consequence:** Would a negative outcome be worth your actions?
- After the contracts have been signed by your contractors, make sure to carry out your assurance duties. This may include things like auditing each task and cost, executing quality control, or even approving invoices.

Module 4: managing risks

- **Objectives**
  - Define and talk about risk management concepts
  - Explain how risk management can help protect your project from failing
  - Identify risk types and how to measure their impact on a project
  - Communicate and resolve identified risks using a mitigation plan

Understanding risk management

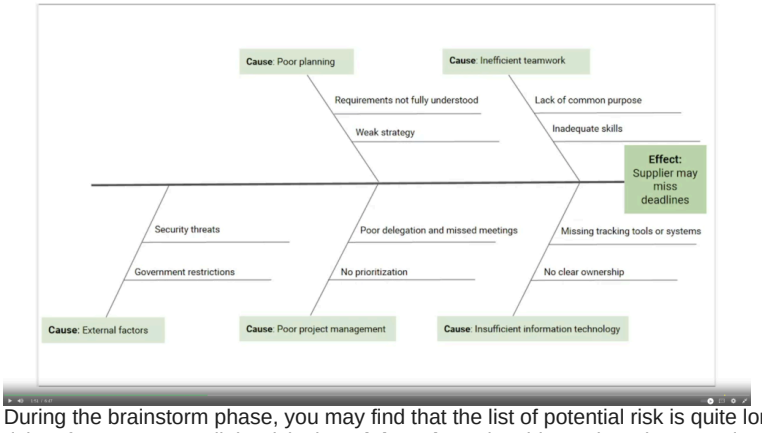
- No project goes 100% by the plan.
- **Risk:** a potential event that can occur and can impact your project.
- As a project manager, you think of risk as a hypothetical. So, these are not events that will definitely happen, but because there is a possibility that they could happen, it is your responsibility as the project manager to identify and plan for those risks.
- **Issue:** a known or real problem that can affect the ability to complete a task. In other words, if a risk actually happens, the risk becomes an issue.
- **Risk management:** the process of identifying and evaluating potential risks and issues that could impact a project.
- Risk management is part of the planning process.
- Risk management provides an understanding of
  - What could go wrong
  - Who you'll need to consult
  - How the risk could be mitigated
- Part of being proactive and planning ahead is identifying potential risks and how to solve them.
- If you don't plan ahead, you may put your project at risk of not meeting its project goal, its timeline, or its success criteria.
- By failing to plan for risk, you also fail to think through the many different ways that your project could pivot and still meet its goals even if an issue does arise.
- Risk can affect projects in a variety of ways that are difficult to foresee.
- Note also that issues will come up throughout the project you did not or could not have planned for, and that is okay. In these situations, figure out the root cause of the problem and come up with a solution.
- Risk management is an ongoing practice throughout the life cycle of your project. It typically involves some variation of these five steps:
  1. **Identify the risk.** The first phase of the risk management process is to identify and define potential project risks with your team. After all, you can only manage risks if you know what they are.
  2. **Analyze the risk**. After identifying the risks, determine their likelihood and potential impact to your project. Serious risks with a high probability of occurring pose the greatest threat.
  3. **Evaluate the risk**. Next, use the results of your risk analysis to determine which risks to prioritize.
  4. **Treat the risk**. During this phase, make a plan for how to treat and manage each risk. You might choose to ignore minor risks, but serious risks need detailed mitigation plans.
  5. **Monitor and control the risk.** Finally, assign team members to monitor, track, and mitigate risks if the need arises.
- When you think about risks, it is likely that you automatically think of potential negative events. But when identifying risks, it is important to also consider the good things that could happen, which are considered **opportunities**. An opportunity is

a potential positive outcome of a risk. It is important to recognize opportunities and to capitalize on them as they appear so you can reach your project goals faster, more cheaply, or with less effort. Some examples of opportunities include:

- Completing a milestone ahead of schedule
- Discounted materials
- Availability of additional resources (people, investments, equipment)

Identifying and assessing risks

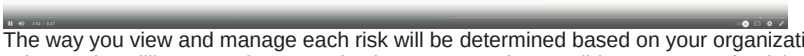
- Tools and techniques to identifying risk.
  - Brainstorming: Using RACI chart to know who evolve in the brainstorm process. The best team is a diverse one, which includes individuals from various roles, backgrounds and experiences. A great tool that you can use during brainstorming is called a **cause-and-effect diagram**, also sometimes known as a (**fishbone diagram or Ishikawa diagram**). Cause-and-effect diagrams show the possible causes of an event or risk and are very useful at risk management.



During the brainstorm phase, you may find that the list of potential risk is quite long. And it is ok. How to know which risk to focus on? Put all the risks in a **risk register** (a table or chart that contains a list of risks). Then you adopt the risk assessment technique as in the next step.

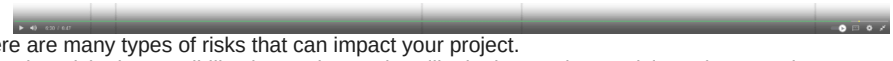
- Risk assessment: the stage of risk management where qualities (how likely it happens) of a risk are estimated or measured. There are a few ways to assess risks, but one we'll focus on is creating a probability and impact matrix. A probability and impact matrix is a tool used to prioritize project risks. **Impact** refers to the damage a risk could cause, if it occurs. High impact (substantially alters the project), Low (slight impact, but not derailing project). **Probability** is the likelihood that a risk will occur. Based on the Impact and Probability, we can calculate the **inherent risk** (measure of risk calculated by its probability and impact). Inherent risk is also measured on low, high and medium scale as indicated in the table.

Inherent Risk				
		Impact		
		Low	Medium	High
Probability	High	Medium	High	High
	Medium	Low	Medium	High
	Low	Low	Low	Medium



- The way you view and manage each risk will be determined based on your organization's **risk appetite**, which refers to the willingness of an organization to accept the possible outcomes of a risk. Based on this table, you need to update the risk register.

ID	Risk Description	Risk to Project	Mitigation Plan
1	Vendor is one day behind schedule to meet an important milestone	Low	Check in with the vendor to determine if the project manager can help remove any blockers to progress
1.1	Vendor is far behind schedule to meet an important milestone	Medium	Hold daily check-in meetings to get updates on progress and remove blockers where necessary
1.2	Vendor misses an important deadline	High	Hire a new vendor



- There are many types of risks that can impact your project.
  - Time risk: the possibility that project tasks will take longer than anticipated to complete
  - Budget risk: the possibility that the costs of a project will increase due to poor planning or expanding the project's scope.
  - Scope risk: the possibility the a project won't produce the results outlined in the project goals.
- External risk: risks resulting from factors outside the company that you have little to no control over (storm, change in the regulatory rules).
- We cannot list/predict all the risks, but if we have a plan, we can better setup to deal with whatever comes your way.
- Single point of failure risk: a risk that has the potential to be catastrophic and halt work across a project. Means no one can work on their tasks until the issue is resolved. As a project manager you need to identify and monitor potential single points of failures, since they can be detrimental to the project timeline, budget, or scope. Ex: power outage/inaccessible database.
- Another source of risk: **dependencies:** a relationship between two project tasks, where the start or completion of one depends on the start or completion of the other. **A dependency** must be addressed before a task is completed. So, they are huge source of risk. If you don't plan for dependencies, you might risk an impact to your budget, schedule, or the project outcome. **There are two types of dependencies:**
  - Internal: dependencies within the project that you and your team have control over
  - External dependencies you don't' have any control over (vendors, ...)
- Four types of **dependencies:**
  - **Finish to Start:** Task B can't start until Task A has finished
  - **Finish to Finish:** Task A must finish before task B can finish
  - **Start to Start:** Task B can't begin until task A begins.
  - **Start to Finish:** Task A must begin before Task B can be completed.

Mitigating and communicating risks

- Risk mitigation plan: finding ways to eliminate or reduce the impact of potential risks to your project.
- Four types of risk mitigation:
  - **Avoid the risk:** by taking action that will eliminate the possibility of risk.
  - **Accept the risk** by accepting the possibility that this risk can happen. You are ok with the risk if it does happen. And allocate more fund for it. **Active acceptance of risk** usually means setting aside extra funds to pay your way out of trouble. **Passive acceptance of risk** is the "do nothing" approach. While passive acceptance may be reasonable for smaller risks, it is not recommended for most single point of failure risks.
  - **Minimize-reduce or control the risk**: Mitigating a risk involves trying to minimize the catastrophic effects that it could have on the project. mitigation strategies referred to as **workarounds.**
    Here we can use a decision tree
  - **Transfer the risk** by shifting the risk from one party to another (outsourcing the risk/task to another supplier.)
- How to document your risk plan decision: Living document that contains information regarding high level risks and the mitigation plans for those risks.
- The risk management plan should be updated regularly to add newly-identified risks, remove risks thar no longer relevant, and include any changes in the mitigation plan.
- After the risk plan is prepared, you need to share it with the stakeholders. If you don't tell your stakeholders about important risks, they may be less equipped to help you if an issue arises (they may not provide you with more money or resources should you require them.).
- How to communicate risks to stakeholders depends on the severity of the risk. For low level risk, maybe use the weekly planning update is enough. For medium level risk, you can use a direct email. The serious nature of high-level risks requires a thorough and direct level communication. Discuss in the meeting and include in the agenda list. Discussing risk with stakeholders may uncover other risks.

Module 5: organizing communication and documentation

- **Objectives**
  - Great communication strategies
  - Creating a successful communication plan for any project

Creating an effective communication plan

- Many times, what contributes to the success or failure of a project team comes down to whether or not everyone understands what's happening and how their tasks contribute to the project's goals.
- What is communication? The flow of information and inclueds what is shared, how it's shared, and with whom.
- Effective communication is:
  - Clear
  - Honest
  - Relevant
  - Frequent (but not too frequent- There is such a thing as communication overload)
- Types of communications:
  - Meetings
  - Email
  - Phone call
  - Written document
  - Formal presentation
- Communication needs to happen throughout the entire life cycle of the project.
- As a project management, you are responsible for creating a consistent flow of communication throughout the project.
- As the project manager, it is important to develop a communication plan for the duration of your project. Good communication helps your project run smoothly, leads to better outcomes, and supports a healthy team culture. You can use these four tips to foster effective communication within your team:
  1. Recognize and understand individual differences
     - You can encourage open, inclusive communication by:
     - Not making assumptions about your audience's backgrounds, identities, or experiences.
     - Being mindful of your own biases.
     - Using appropriate, professional, and neutral language.
     - Including, respecting, and being curious about diverse points of view.
  2. Brainstorm and craft the appropriate message

     In your communications, always be clear about your reasons for reaching out:

    - What channels can your audience use to contact you or the team?
    - Are you conveying information?
    - Are you asking for input?
    - Are you clarifying an issue?
    - Are you resolving a problem?

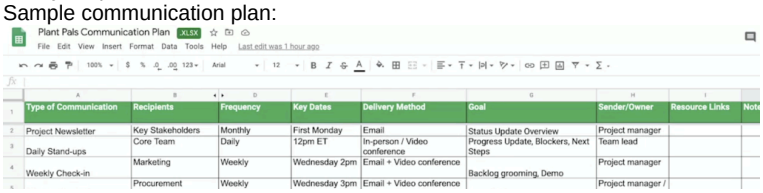
  Some team members may require detailed information, while others may only need an overview of the situation.

3. Deliver your message
   As you craft your message, think about which methods are available and appropriate for communicating with various members of your team, whether that is in person, in a video conference, over the phone, via email, or in a meeting. Choosing the right method is especially important if you have team members or stakeholders in different regions and time zones. Also, be sure to:
   i. Avoid including any sensitive or potentially private information.
   ii. Assume everyone at the company will receive the communication.
4. Obtain feedback and incorporate that feedback going forward

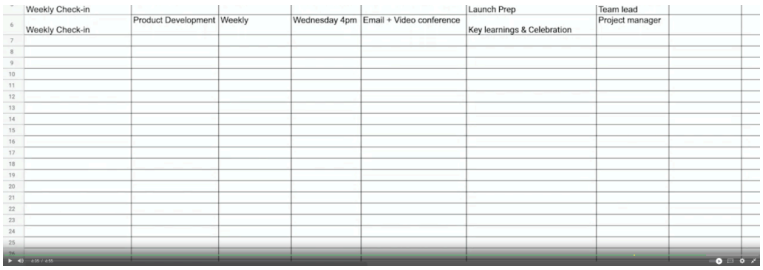
   Communication doesn't end when you deliver your message, so be sure to follow up with your audience by:

    - Checking to make sure your message was clear.
    - Asking them for feedback.
    - Encouraging open communication.
    - Responding to questions quickly.

- Communication plan: organizes and documents the process, types, and expectations of communication for the project.
- Planning communications upfront has the following benefits:
    - Improves communication overall
    - Keeps people engaged and motivated
    - Gets stakeholders involved in effective conversations
- Communication plan helps with effective change management.
- Communication plan is to address these questions (who, what, why, how):
    - What needs to be communicated
    - Who needs to communicate
    - When communication needs to happen (how often)
    - Why and how to communicate
    - Where the information being communicated is stored
- Not everyone needs to receive the same amount of information at the same time. Key stakeholders will get their information less often, like in a monthly, high-level summary, email, or project review meeting. But core team gets detailed info through daily email updates, or check-ins.
- To design communication plan, you can refer to the RACI chart and stakeholder map to find what type of information works best for all.
- People absorb information in different ways. Modes of information processing:
    - Visuals (chart, graph)
    - Listening
    - Reading and Analysis
    - Talk with others
- Tips to create the communication plan:
  1. **Identify, identify, identify** Before you begin creating the plan, answer these questions to ensure that you have all of the relevant information:
     - **Project stakeholders**: Have you created a RACI chart or stakeholder map of all your stakeholders? Who is your audience? Who will need to be informed at different points during the project life cycle?
     - **Communication frequency and method**: When and how often should you check in with your stakeholders? What methods of communication do they prefer? How much detail does each stakeholder need?
     - **Goals**: What is the goal of your communication? Do you need a response? Are you trying to encourage engagement or simply providing an update?
     - **Barriers**: Are there any time zone limitations? Language barriers? Do some stakeholders require time to reply or respond (e.g., an executive)? Are there any privacy or internet access issues?
  2. **Document and develop** Choose a tool or template to document all of your communication needs, and begin developing your plan. Once you understand the basic elements (stakeholders, communication methods, goals, and barriers), it's time to work out the details! Here are some tips:
     i. **Add a column for notes.** Project management is not one-size-fits-all, and there are a lot of pieces that need to be tracked. For instance, if you are reaching out to a senior leader or executive, do you need to copy anyone else on the email? If a stakeholder is out of office or unavailable on certain dates, do you have a backup plan? Add notes to set reminders and any additional relevant details.
     ii. **Use formatting to highlight any key details in the plan.** Is there a launch announcement or an urgent decision needed for the project to move forward? Highlight these pivotal elements in a different font color or size to stress their importance.
     iii. **Ensure that the team can access your document.** Share the plan with your team. Allowing your team to review the document ensures that they are aware of the plan and gives them a chance to offer feedback. Sharing the document also serves as an extra check to make sure you aren't missing any crucial pieces.
     iv. **Test your plan.** If you are sending a team-wide email or link, send a test email to yourself or a colleague. If you are planning a virtual presentation, be sure to test the visual, audio, and other technical aspects in advance. That way, you can minimize any technical problems.
  3. **Check in** Once your communication plan is out in the world, check in with your audience about the effectiveness of your plan. Scheduling routine check-ins will help you understand what is and is not working so you can improve your plan.
- Sample communication plan:



Type of Communication	Recipients	Frequency	Key Dates	Delivery Method	Goal	Sender/Owner	Resource Links	Not
Project Newsletter	Key Stakeholders	Monthly	First Monday	Email	Status Update Overview	Project manager		
Daily Stand-ups	Core Team	Daily	12pm ET	In-person / Video conference	Progress Update, Blockers, Next Steps	Team lead		
Weekly Check-in	Marketing	Weekly	Wednesday 2pm	Email + Video conference	Backlog grooming, Demo	Project manager		
	Procurement	Weekly	Wednesday 3pm	Email + Video conference		Project manager /		



	Weekly Check-in				Launch Prep	Team lead	
6	Weekly Check-in	Product Development	Weekly	Wednesday 4pm	Email + Video conference	Key learnings & Celebration	Project manager

Document project planning resources

- To keep all teams on the same page, it was important for everyone to store their plans and reports in one centralized place.
- Documentation storage and sharing is very important. Having plans in one place makes communication quicker easier, and more streamlined.
- Documenting and organizing plans provides visibility and accountability.
- Having up-to-date plans will help ensure there's no room for miscommunication.
- Managing permissions of your files and folders: If someone isn't a core part of the project team, you might not want them to have full access to all of the meeting notes. Instead summarize the relevant information into a status report for those who need to stay informed of final outcomes but don't need all background information.
- Continuity is another reason to keep all the project documents in a place. Let's say you got sick and needed to take leave of absence. Another project manager needs to step in, and it is good that all your documents are in the one place.
- Make sure people in relevant roles are granted access to documents so that even in your absence, the project can carry on.
- Documenting your plan and making them available is part of project management best practice called **knowledge management**. It is a way of ensuring that project data can be accessed in the future by others who need it for informing decisions or planning similar projects.
- Figuring out what information to share is even more important when you are working on a project that have sensitive data. Protect sensitive data from unauthorized viewers.
- Only share information on a need-to-know basis. It is your job to present the right information at the right time to the right people.
- Personally Identifiable Information (PII): Information that could be used on its own to directly identify, contact, or precisely locate an individual (email addresses, mailing addresses, phone numbers, precise locations, full names). Know who show have access to this level information.
- Have all of your project resources documented and linked so that you or anyone on the project can access what they need quickly. Use a spreadsheet that links all the files to the storage like share points.