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### Project management Terms

#### What is Project?

* A temporary endeavor that produces a **unique** product, service or result
* ***Temporary*** in nature and has a definite beginning & ending
* Can be **part of large program or portfolio**
* **Progressively Eloborated**

#### What is Project Management (people management should call)?

Application of knowledge, skills, tools and techniques to satisfy project requirements.

* Preparing business cases to **justify the investment**.
* Estimate resources and times
* Developing & implementing a management plan for project
* ***Leading & motivating the project delivery team (Most important)***
* *Managing the risks, issues & changes on the project*
* *Monitoring progress against project plan*
* Closing the project in controlled fashion when appropriate.

#### What is Program Management?

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

* Must be some ***value add*** in *managing them together* as a program
* A project may or may not have a program, but program will always have projects.
* Focus on the projects interdependencies and help to determine the optimal approach for managing them.

A diagram of a program

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#### Project Management Office?

**Organizational structure** that standardizes the processes and facilities the sharing of **resources, methodologies, tools, and techniques**.

Types:

* **Supportive:** supports the project manager, such as **providing templates, training or lessons learned from other projects.**
* **Controlling:** Determines the **framework** for **methodology and use of specific forms**.
* **Directive:** Controls the project. **PM will be assigned** and **report to the PMO**.

#### What is Portfolio Management?

A portfolio is a collection of projects, programs, subsidiary portfolios, and operations managed as a group to achieve strategic objectives.

* Collections of projects, programs, subsidiarity portfolios
* Achieve strategic (long term) objectives

A diagram of a project

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#### What is Operation Management

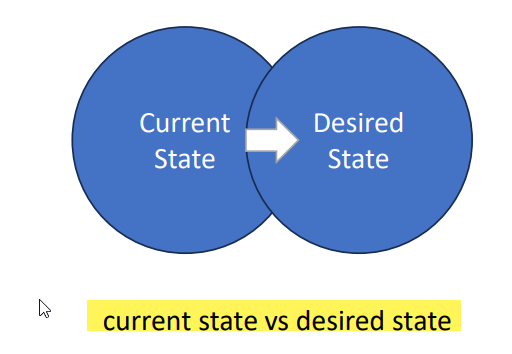
* Deals with ongoing production of goods and/or services
* Considering the acquisition, development, and utilization of resources, firms need to deliver the goods and services

#### What is the value of Project?

* What value will this project bring to the company upon completion?
* Why should we undertake this project?
* Money, brand reputation, customer service, new or change product or service.

#### Project enable changes

* Project can be a vehicle for change in an organization.
* Takes a company from a ***current state to the desired state***.



#### Phases and Deliverables

* A phase is collection of logical related project activities that culminates in the completion of one or more deliverables.
  + The number of the phases depends on the industry type and size and complexity of the project.
* A deliverables is any unique and verifiable product, service or result.
  + May be tangible or intangible
  + Must be accepted by the customer or sponsor for the phase

A diagram of process flow

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#### Project Life Cycle

* A representation of the phases that a project typically goes through from start to finish
* Can be either predictive or adaptive

A diagram of a project life cycle

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#### Project Governance

Project Governance

* Framework within which project decisions are made
* Three pillars:
* Structure: Unique structure for every organization.
* People: Project Managers
* Information: Flow information to take correct decision

#### Stakeholders

Individuals, group, or organization that may affect, be affected, or perceive to be affected by the project.

**Key Stakeholders**

* **Project manager** – manages the project
* **Customer** – uses the project deliverable
* **Project team** – the collection of individuals completing the project work
* **Project Sponsor** – Provides resources and support
* **Functional manager** – department manager, i.e manager of engineering, vice president of marketing, director of IT, generally controls resources.

#### Project Manager Role

* Initiator : someone to initiate
* Negotiator: negotiate for mutually agreeable solution
* Listener: pay attention to other’s idea
* Coach: PM is coach not dictator, guide & support individuals or teams
* Working member: sometimes you can be working member
* Facilitator: PM is always a facilitator who manage group processes.

#### Milestone vs Task Duration

* Milestone: significant achievement in project.
* Task Duration: Task Duration refers to the amount of time it takes to complete a specific task

#### Project Bosses

* Sponsor
  + Internal or External
  + Project champion
  + Funding the project
  + Maybe used to resolve conflict in the project
* Program Manager
  + Senior to project manager
  + Maybe responsible for several projects executing at the same time
  + Maybe used to resolve conflicts in the project.

#### Product Management Vs Project Management

* Product management: Production management is having a complete life cycle of product.
* Project management: During the life cycle of product. There will be many projects. (design, marketing, development, etc.)

#### Area of a Project

* Scope: work to be done
* Schedule: Time to get the work done
* Cost: Budget of the work
* Quality: Customer satisfaction of work
* Resources: Managing the people and material resources
* Communication: All stakeholders get the correct information at the right time
* Stakeholders’ engagement: keeping all stakeholders active and alert on the project
* Risk: identifying and responding to risk over the lifecycle of the project
* Procurement: Acquiring resources from outside the project team

#### Project Management Approaches

Predictive Approach (waterfall approach)

* Involve detail planning
* Sequential execution
* Limited flexibility, limited changes with well define change control process

Adaptive Approach (Agile approach)

* Embraces change throughout the project
* Iterative and incremental development
* Customer collaboration
* Self-organizing team
* Commonly used in agile methodologies like scrum or kanban

#### Organizational Structure

* Functional Organizational Structure:
  + Structure that group staff members according to their expertise (sales, marketing, etc.) staff report to functional manager.
  + PM has less/no power
* Matrix Organizational Structure:
  + Can be weak, balanced, strong projectized.
* Project oriented organizational (Projectized):
  + Structure where PM has greatest amount of power, The project team is assigned to the project on full-time basis.
* Hybrid: Blended type

A table with text on it

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#### Issues, Risks, Assumptions & Constraints

* Risk: are potential events risks on project success
* Issues: Project or challenges that arise in project. They are typically negative events.
* Assumptions: statement or beliefs that are considered to be true/valid for the purpose of planning and decision-making.
* Constraints: are limitations or restriction that affect project planning and execution.

#### Project Constraints

* Scope
* Schedule
* Cost
* Risk
* Quality
* Resources

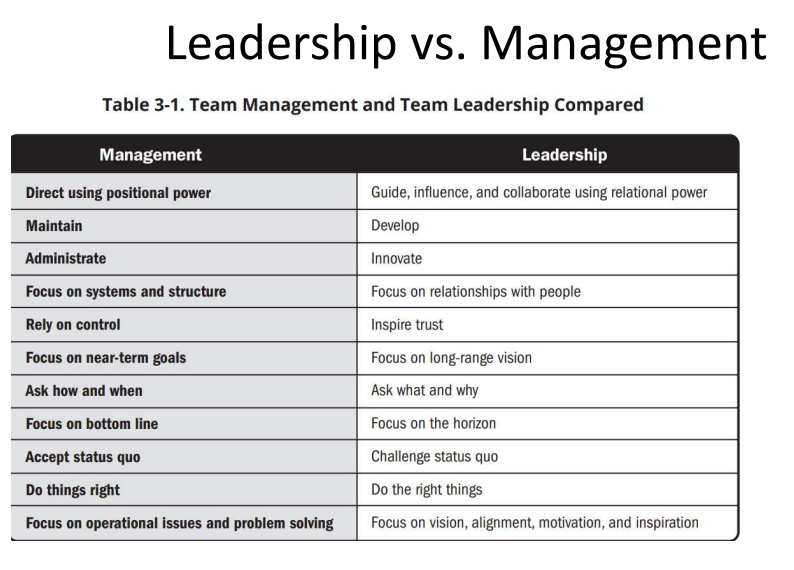
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#### Emotional Intelligence

* Ability to recognize, understand & manage emotions, both oneself and in others.
* Being aware of one’s own emotions, effectively handling them, empathizing others and using emotions to guide thinking and behavior.
* In project management, EQ plays a significant role
* Relationship building
* Communication and conflict management
* Motivation and influence
* Leadership and Decision Making
* Stakeholders Management

#### Leadership vs. Management



### Project Management Principles

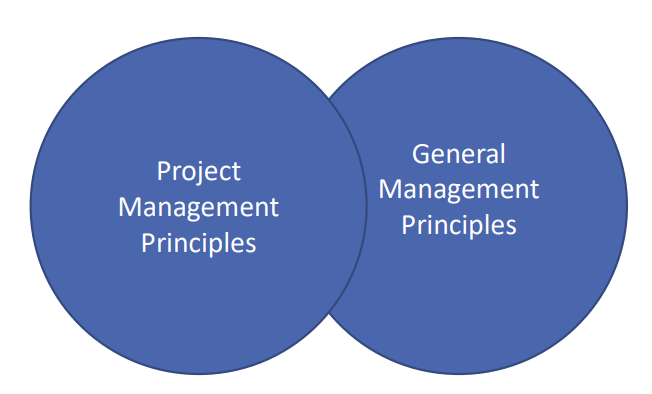
#### PMI code of Ethics and Professional Conduct

PMI is based on 4 values

* Responsibility
* Respect
* Fairness
* Honesty

#### Project vs General Management Principles

Principles of project management can also have areas of overlap with general management principles



#### 12 Principles of project management

1. Be a diligent, respectful, and caring **steward**
   1. STEWARDSHIP: “The act of taking care of or managing something, for example property, an organization, money or valuable objects.”
2. Create a collaborative **project team** environment
   1. Project teams are made up of people who have diverse skills, knowledge, and experience.
   2. Project teams that work collaboratively can finish a shared objective more effectively and efficiently than individuals working on their own.
3. Effectively engage with **stakeholders**
   1. Engage stakeholders proactively and to the point needed to contribute to project success and customer satisfaction.
   2. Stakeholders impact projects, performance, and outcomes.
4. Focus on **value**
   1. Continually evaluate and adjust project alignment to business objectives and intended benefits and value.
   2. Value is the ultimate indicator of project success.
5. Recognize, evaluate, and respond to **system interactions**
6. Demonstrate **leadership** behaviors
   1. Demonstrate and adapt leadership behaviors to support individual and team needs. Effective leadership promotes project success and contributes to positive project outcomes. Any project team member can demonstrate leadership behaviors. Leadership is different than authority.
7. **Tailor based on context** 
   1. Each project is unique. Design the project development methods based on the needs of the project and its objectives, stakeholders, governance, and the environment. Using “just enough” process to accomplish the desired outcome while maximizing value, managing cost, and enhancing speed. Project success is based on adapting to the unique context of the project Tailoring the method is iterative, and therefore is a continuous process throughout the project.
8. **Build quality** into **processes** and **deliverables**
   1. Quality is about meeting the acceptance criteria for deliverables. Project quality is about satisfying stakeholders’ expectations and fulfilling project and product requirements. Stakeholders will have to maintain a focus on quality that produces deliverables that meet project objectives and align to the needs set forth by stakeholders.
9. Navigate **complexity**
   1. Complexity is the outcome of human behavior, system interactions, uncertainty, and ambiguity. Complexity can arise at any point during the project.Constantly evaluate and navigate project complexity so that approaches and plans enable the project team to successfully navigate the entire project. Complexity can be introduced by events or conditions
10. Optimize **risk** **responses**
    1. A risk is an uncertain event or condition that, if it occurs, can have a positive or negative effect on one or more objectives.Risks can be positive (opportunities) or negative (threats). Project teams seek to maximize positive risks (opportunities) and decrease exposure to negative risks (threats).
11. Embrace **adaptability** and **resiliency**
    1. Adaptability is the ability to respond to changing conditions. Resiliency is the ability to absorb impacts and to recover quickly from a setback or failure. Build adaptability and resiliency into the organization’s and project team’s approaches A focus on outcomes rather than outputs facilitates adaptability.
12. Enable **change** to achieve the envisioned future state
    1. Prepare those impacted for the acceptance to go from the current state to the intended future state created by the project output. A structured approach will helps individuals, groups, and the organization transition from the current state to a future desired state. Change can originate from internal influences or external sources. Enabling change can be challenging as not all stakeholders embrace change. Attempting too much change in a short time can lead to change fatigue and/or resistance. Stakeholder engagement and motivational approaches assist in change adoption.

### Project Management Performance Domains

Principles and performance domain Introduction

**Domain** are group of ***related activities*** that are critical for the effective delivery of project outcomes.

A diagram of a project management

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There are 3 different Project Performance Domain.

1. **Stakeholder** Performance Domain
2. **Team** Performance Domain
   1. Deals with activities and functions associated with the people who are responsible for creating project deliverables that realize business outcomes.
3. **Development Approach & Life Cycle** Performance Domain
   1. Determine approach Agile, Traditional Water fall or Hybrid
   2. Deals with activities and functions associated with the development approach, cadence, and life cycle phases of the project.
   3. Delivery cadence refers to the timing and frequency of project deliverables.
4. **Planning** Performance Domain
   1. Deals with activities and functions associated with the initial, ongoing, and evolving organization and coordination necessary for delivering project deliverables and outcomes.
   2. The purpose of planning is to proactively develop an approach to create the project deliverables.
5. **Project Work** Performance Domain
   1. Deals with activities and functions associated with establishing project processes, managing physical resources, and fostering a learning environment.
   2. Project work is connected with establishing the processes and performing the work done by the project team to deliver the expected deliverables and outcomes.
6. **Delivery** Performance Domain (High Quality Deliverable)
   1. Deals with activities and functions associated with delivering the scope and quality that the project was undertaken to achieve.
7. **Measurement** Performance Domain
   1. Deals with activities and functions associated with assessing/measuring project performance and taking appropriate actions to maintain acceptable performance.
8. **Uncertainty** Performance Domain (Risk)
   1. Deals with activities and functions associated with risk and uncertainty.

### Predictive Project Management Terms

#### Traditional Project

* Also called ‘Waterfall’ project management.
* It is better when customer needs are well defined, standards to follow are clear, and changes are not expected.
* Project manager is in control of the project at all the times.
* All planning is done upfront.
* Objective is to complete the set scop in as little time as possible and reduce cost.

#### Process Groups & Knowledge Areas Table

Process Groups: A practice guide provides an overview of project and development life cycles in the introduction, with a focus on predictive life cycles throughout, and describes the 49 processes within these five process groups along with the inputs, tools and techniques, and outputs associated with those processes.

This practice guide identifies the processes that are ***considered*** good practices on most projects, most of the time. Project management should be tailored to fit the needs of the project. ***There is no requirement that any particular process or practice be performed.*** The processes should be tailored for specific project and/or organization. Specific methodology recommendations are outside the scope of this practice guide.

1. Initiating
   1. Used to define a project or phase of an existing project.
   2. Done to authorize the start of the project and assign the project manager.
2. Planning
   1. Done to establish the scope of the project, define the course of action required to attain the objectives.
3. Execution
   1. Done to complete the word defined in project management plan.
4. Monitoring & Controlling
   1. Done to track, review, and regulate the progress and performance of the project.
   2. Looks for any areas in which changes to the plan are required and initiate the corresponding changes.
5. Closing
   1. Done to formally complete or close the project, phase, or contract.

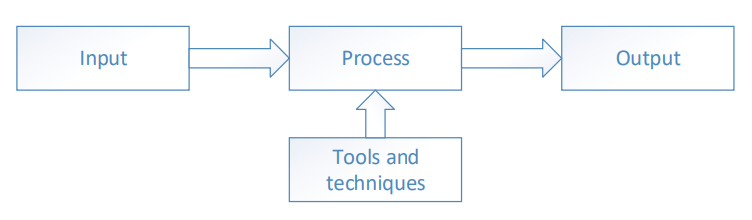
A group of tasks on a table

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#### Process

Input, Outputs and Toot/techniques combined to execute a specific purpose on the project

* Input
  + Starting point for the process, the raw materials to bigin the execution
    - Coud be the output of a previous process
* Tools and techniques
  + The actions or methods that are used to transform the raw materials into the output
* Output
  + The end result of our efforts. The raw materials into a polished stone
    - Maybe the input into another process



#### Enterprise Environment Factor (EEF) (also known as Organization Culture)

* Things that impact the project but are not part of the project itself
* Influence the organization, the project, and its outcome
* It is essential to consider these internal and external factors while planning the project to determine their influence
* Can enhance or constrain project management options and may have negative or positive influences on the outcomes



#### Organization Process Assets (OPA)

* OPA also know as existing templet provided by PMO
* Organizations have assets such as information, policies, procedures, documents, or knowledge bases which are called Organizational Process Assets (OPA) to help them in achieving their objectives
* Kept in some central repository so that they can be used whenever required
* These elements affect several aspects of the project
* Project team members update and add to the Organizational Process Assets throughout the project
  + Examples:
    - Project templates
    - Software tool
    - Historical information
    - Project closure guidelines
    - Risk control procedures
    - Change control procedures
    - Issue and defect management procedures\

#### Project Documents

* Any documents that are related to the project
* Project documents are additional documents that are created and used throughout the 49 processes that are not part of the project management plan
* “include but are not limited to.”

A table of project management plan

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A list of project documents

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#### Project Management Plan

* Defines how the project is executed, monitored and controlled, and closed
* 18 components, 14 plans and 4 baselines
* “include but are not limited to.”



#### Expert Judgement

* One of the most common tools in the planning process
* Includes hiring an expert or subject matter expert (SME) to help you to plan a process or conduct a process
* People with specialized knowledge or training in a particular process, industry, or technology

#### Data Gathering, Data Analysis, Data Representation, Decision Making

A diagram of data analysis

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Data Gathering

* Methods:
  + Brainstorming: Brainstorming is when you bring together a group of stakeholders to get ideas and analyze them. Brainstorming sessions are generally facilitated by the project manager.
  + Interviews: Any time you want to gather data from a particular stakeholders, one of the best methods is to just interview them. Ask them a series of questions and talk with them about their thoughts and views.
  + Focus groups: A focus group is when you bring together subject matter experts to understand their perspectives and how they would go about solving problems.
  + Checklist: A checklist is generally created by the organization and then given to potential stakeholders on a project for them to identify items they may want on a project, things they may not want on the project, and some success criteria they may have for the project.
  + Questionnaires and surveys: Questionnaires and surveys can be given to stakeholders to better understand what they may be looking for on a project and to better understand their needs.

Data Analysis

* Methods:
  + Alternative analysis: Alternative analysis involves looking at different options or ways to accomplish something.
  + Root cause analysis (RCA): A root cause analysis is used to identify the main underlining reason for particular event.
  + Variance analysis: Variance analysis is used quite often to find the exact differences between different things.
  + Trend analysis: Trend analysis involves looking at data over a period of time to see if a particular trend is forming.

Data Representation

* Illustrate different ways that a data could be shown to stakeholders
* Methods generally include the use of charts, matrixes, and different types of diagrams
* Examples: Flowcharts, Fishbone diagrams, Histograms

Decision Making

* Have to make a decision on what to do with that data
* Methods:
  + Voting: Voting is used by a group to determine whether to proceed, change, or reject something. Voting can be: majority wins, unanimity, where everyone agrees; or plurality, where a majority is not obtained but that decision is chosen.
  + Multicriteria decision analysis: This is when you make a table (matrix) that lists different types of criteria, and then evaluate an idea based on those criteria.
  + Autocratic decision making: This is when one person makes a decision for the entire team.

#### Interpersonal and Team Skills

* All project managers need to have good interpersonal and team skills in order to manage the different stakeholders that will be on the project
* most important tool in real-life project management
* Methods:
  + Active listening: Active listening is understanding, acknowledging, and clarifying what others are saying to you.
  + Conflict management: Anytime you bring a team together, bound to have conflicts on that team.
  + Facilitation: Facilitation is the art of managing a group. This can include bringing the group together, generating ideas, solving problems, and dissipating the team.
  + Meeting management: Meeting management generally includes having an agenda, inviting the right stakeholders, setting a time limit, and following up with meeting minutes and action items.

#### Meetings

* Meetings can be done face-to-face or virtually.
* Have an agenda and distribute it to all attendees before the meeting.
* Meetings must be timed, including having set start and finish times for topics and the entire meeting.
* Make sure that the meeting always stays on topic and does not go off topic.
* Ensure that all attendees have input to the topics.
* Distribute detailed meeting minutes once the meeting is complete.

#### Project Management Information System (PMIS)

* Automated system that is used to help the project manager optimize the schedule or keep track of all the documents and the deliverables
* Usually the computer system that a given organization uses to manage its projects
* It should include all the software and hardware tools that we need to manage the project from start to finish
* Includes the work authorization system and the configuration management system

#### Change Request

* Proposal to change a document, deliverable, or baseline
* Can include a request to add or remove work from the scope, finish the project faster, or complete the project more cheaply
* Implements
  + Corrective action: is something that’s taken to ensure that the project gets back on track.
  + Preventive action: is something you put in place to ensure the project stays on track.
  + Defect repair is done to fix a broken component on a project, such as if network switch memory fails on a network upgrade project.

Work Performance Data, Information, Report

A diagram of a project

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Work Performance Data

* Work performance data is simply raw data
* It is the status of the work that was done but does not have any analysis applied to it.
* It is not useful by itself.
* Usually outputs of executing processes

Work Performance Information

* Information of the work that was performed compared to the plan
* It gives you actual status about the deliverables
* Work performance information is usually the output of most monitoring and controlling processes

Work Performance Report

* overall status report of the actual project
* It takes all the work performance information and puts it together into one comprehensive document
* You take the work performance data and compare it against the plan to come up with the work performance information. Then you take all the work performance information and create the work performance reports. In short, data feeds info and all the info creates reports.

#### Updates

* Updates is a catchall term
* Updates can include project documents, the project management plan, OPA and EEF updates
* Expect to see this output many times throughout the book

### Point to revisit before Exam

* Stakeholder
* Team
* Team vs Stakeholder
* Conflict
* Change
* Focus on Values