IT PROJECT MANAGEMENT

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Project Life Cycle

- Project Management Processes
  - The Project Life cycle is managed by executing a series of project management activities known as project management processes.
  - Each process produces one or more outputs from one or more inputs using appropriate project management tools and techniques.
    - The output can be a deliverable or an outcome.
    - Outcomes are an end result of a process.
    - Are logically linked by the outputs they produce.
    - May contain overlapping activities that can occur throughout the project.
    - The output of one process will either result in
      - An input of the project or project phase
      - A deliverable of the project or project phase.
- Project Management Process Groups
  - A logical grouping to achieve specific project objectives.
  - Are independent of project phases.

Project Life Cycles

- 5 Phases / Process Groups
  - Initiating
  - Planning
  - Executing
  - Control & Monitoring
  - Closing

Project Life Cycle

Project Life Cycle

- Phase 1 - Conception and Initiation
  - Goal is to define the project at a broad level.
  - Usually begins with a business case.
  - Stakeholders provide buy-in
  - Documents produced include:
    - Project Charter or Project Initiation Document (PID).
    - Project Business Case
      - A documented justification for a proposed project or undertaking on the basis of its expected commercial (economic) benefit.
      - Project Sponsor is accountable
    - Projects Benefits Management Plan
      - The documented explanation defining the processes for creating, maximizing and sustaining the benefits provided by a project.
      - The Project Manager is responsible for providing recommendations and oversight to align with other project documents like the Project Charter, Project Management Plan and the Project Business Case

Project Life Cycle

- **S**pecific – To set specific goals, answer the following questions: who, what, where, when, which, and why.

- **M**easurable – Create criteria that you can use to measure the success of a goal.

- **A**ttainable – Identify the most important goals and what it will take to achieve them.

- **R**ealistic – You should be willing and able to work toward a particular goal.

- **T**imely – Create a timeframe to achieve the goal.

▶ Phase 2: Project Planning

  ▶ Key to successful project management

  ▶ Focuses on developing roadmap for all stakeholders

  ▶ Begins with setting goals

    ▶ SMART Goals

      ▶ Thoroughly vets goals

      ▶ Provides a way to clearly understand the implications of the goal-setting process.

    ▶ CLEAR Goals

      ▶ Collaborative – The goal should encourage employees to work together.

      ▶ Limited – should be limited in scope and time to keep it manageable.

      ▶ Emotional – Goals should tap employees' passion and emotional connection. This can optimize the quality of work.

      ▶ Appreciable – Break larger goals into smaller tasks that can be quickly achieved.

      ▶ Refinable – As new situations arise, be flexible and refine goals as needed.

Project Life Cycle

- Project Planning
  - Project Scope is defined
  - Project Management Plan developed
    - Establishes baselines or performance measures
  - Involves identifying
    - Cost of project
    - Quality of deliverable(s)
    - available resources – human, material
    - Realistic timetable
  - Roles and responsibilities (team, stakeholders) are defined
  - Documents
    - Scope Statement
      - A document clearly defining the business need, benefits of the project, objectives, deliverables, and key milestones.
      - Can change during the project execution
      - Needs approval from Project Sponsor and Manager before change.

Project Life Cycle

- Project Planning
  - Documents
    - Work Breakdown Schedule / Structure (WBS)
      - This is a visual representation that breaks down the scope of the project into manageable sections for the team.
    - Milestones
      - Identify high-level goals that need to be met throughout the project and include them in the Gantt chart.
    - Gantt Chart
      - A visual timeline that you can use to plan out tasks and visualize your project timeline.
    - Communication Plan
      - A schedule of when to communicate with team members based on deliverables and milestones.
      - Important when external stakeholders are involved

Project Life Cycle

- Project Planning
  - Documents
    - Risk Management Plan
      - Identifies all foreseeable risks
      - Common risks include
        - unrealistic time
        - cost estimates
        - customer review cycle
        - budget cuts
        - changing requirements
        - lack of committed resources.

Project Life Cycle

- Phase 3: Project Execution
  - Deliverables are developed and completed
  - Meat of project involving
    - Status reports and meetings
    - development updates
    - performance reports.
  - Tasks include:
    - Develop team
    - Assign resources
    - Execute project management plans
    - Procurement management if needed
    - Project Manager directs and manages project execution
    - Set up tracking systems
    - Task assignments are executed
    - Status meetings
    - Update project schedule
    - Modify project plans as needed

Project Life Cycle

- Phase 4: Project Performance / Monitoring
    - measuring project progression and performance
    - Ensuring that project execution aligns with the project management plan.
    - Occurs simultaneously with the Execution phase.
    - Use Key Performance Indicators (KPIs) to track project
        - Project Objectives: Measures project schedule and budget to meet stakeholder objectives.
        - Quality Deliverables: This determines if specific task deliverables are being met.
        - Effort and Cost Tracking:
            - accounts for tracking the effort and cost of resources to check if the budget is on track.
            - This type of tracking informs if a project will meet its completion date based on current performance.
        - Project Performance:
            - This monitors changes in the project.
            - Considers the amount and types of issues that arise and how quickly they are addressed.
                - These can occur from unforeseen hurdles and scope changes.
    - Project schedules and resources are adjusted to ensure project is on track.

Project Life Cycle

- Phase 5: Project Closure
  - Project completion
  - Contractors terminated
  - Valuable team members recognized
  - Some PMs organize events to signify end of project
  - Project closure meeting – Post mortem – to evaluate how project fared.
    - Lessons learned
  - Create Project punchlist of things that did not get accomplished
    - Get team members to complete these
  - Prepare final project budget
  - Prepare final project report
  - Collate all project documents and deliverables
    - Store in a single place for future reference

Project Life Cycle

- Project Selection Methods
  - Used when there are a number of interesting and challenging projects to choose from.
  - Consider finding a project that is the right fit for your team's
    - skill set
    - level of competence
  - and has the best chance of success
  - Methods: 2 Methods
    1. Benefit measurement Methods
       - Useful for simple projects
       - Selection technique based on the present value of estimated cash outflow and inflow
       - Cost benefits are calculated and a decision taken
       - Examples
         - Cost –Benefit Analysis
         - Scoring model

Project Life Cycle

- Methods
  - Benefit
    - Examples
      - Payback period
      - Net present value
      - Discounted cash flow
      - Internal rate of return
      - Opportunity costs
      - Economic Model (Economic Value Model)
  - Constrained Optimization Method/ Mathematical Model
    - Useful for large, complex projects requiring comprehensive mathematical calculations
    - Examples
      - Linear Programming
      - Non-linear programming
      - Integer programming
      - Dynamic Programming
      - Multiple Objective programming
- Non-financial considerations

Project Life Cycle

- Feasibility
  - Is the project technically feasible?
  - Does the project have management support, employee involvement and commitment?
  - Does the project generate economic benefits?
  - Can the project be financially supported?
  - Can the project be integrated well with the local cultural practices and beliefs?
  - Will the project elevate or hinder the participants' social status?
  - Is the project physically and organizationally safe?
  - Is the project politically correct?
  - What is the environmental impact?
  - What is the market demand, expected competitive activities, commercial start-up, and price wars potential?

Project Life Cycle

- Feasibility
  - Think beyond your first approach idea.
    - List at least five alternative approaches that could be used to achieve the same objectives:
  - Retrieve previous project lessons learned.
  - Plan with an emphasis on
    - Suitability
    - Quality
    - Robustness
    - effective integration

Project Life Cycle

▶ Assigning a Project Manager

  ▶ Efforts should go into selecting the right manager for a project

  ▶ Consideration on

    ▶ Project complexity

    ▶ Departmental boundaries crossed

    ▶ Risk management

    ▶ Change management

    ▶ Etc

▶ Level of Project Manager's Authority

  ▶ Project Expeditor

  ▶ Project Coordinator

  ▶ PM with limited authority

  ▶ PM with balanced authority with Department Managers

  ▶ PM with authority over Department Managers

  ▶ PM with full authority over all team members

Assignment 1 - Read on

- **Benefit measurement Methods**
  - Cost –Benefit Analysis
  - Scoring model
  - Payback period
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- **Constrained Optimization Method/ Mathematical Model**
  - Linear Programming
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  - Dynamic Programming
  - Multiple Objective programming