Department of B.E Civil Engineering

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Assignment #	sessional assignment
Date:	29-June-2020
Semester:	8th
Section:	“C”
Subject:	Construction management
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Problem 1: what is Project Life-Cycle explain briefly with diagram?

Answer: *The 4 Phases of the Project Management Life Cycle:*

1. *Initiation.*
2. *Planning.*
3. *Execution.*
4. *Closure.*

1. Initiation:

First, you need to identify a business need, problem, or opportunity and brainstorm ways that your team can meet this need, solve this problem, or seize this opportunity. During this step, you figure out an objective for your project, determine whether the project is feasible, and identify the major deliverables for the project.
Instead of waiting to have the project strategy decided for you, Moira Alexander advocates for a mental switch from being a project "manager" to becoming a project "leader":
"Project managers must be able to sell business leaders on the intrinsic value they offer to the business at a strategic level when they are at the table from the start of strategic planning instead of after the fact decision-making. Project manager's effectiveness is drastically muted when offering a "fix-it" or "workaround" once high-level directional business decisions are made without their expertise."
Clearly, it's worth it to do what it takes to make your voice heard early—before the strategy is set in stone.

- ***Project management steps for the initiation phase:***
- *Undertaking a feasibility study: Identify the primary problem your project will solve and whether your project will deliver a solution to that problem.*
- *Identifying scope: Define the depth and breadth of the project.*
- *Identifying deliverables: Define the product or service to provide.*

- *Identifying project stakeholders: Figure out whom the project affects and what their needs may be.*
- *Developing a business case: Use the above criteria to compare the potential costs and benefits for the project to determine if it moves forward.*
- *Developing a statement of work: Document the project's objectives, scope, and deliverables that you have identified previously as a working agreement between the project owner and those working on the project.*

2. Planning:

Once the project is approved to move forward based on your business case, statement of work, or project initiation document, you move into the planning phase.

During this phase of the project management life cycle, you break down the larger project into smaller tasks, build your team, and prepare a schedule for the completion of assignments. Create smaller goals within the larger project, making sure each is achievable within the time frame. Smaller goals should have a high potential for success.

- ***Project management steps for the planning phase:***
- *Creating a project plan: Identify the project timeline, including the phases of the project, the tasks to be performed, and possible constraints.*
- *Creating workflow diagrams: Visualize your processes using swim lanes to make sure team members clearly understand their role in a project.*
- *Estimating budget and creating a financial plan: Use cost estimates to determine how much to spend on the project to get the maximum return on investment.*
- *Gathering resources: Build your functional team from internal and external talent pools while making sure everyone has the necessary tools (software, hardware, etc.) to complete their tasks.*
- *Anticipating risks and potential quality roadblocks: Identify issues that may cause your project to stall while planning to mitigate those risks and maintain the project's quality and timeline.*
- *Holding a project kickoff meeting: Bring your team on board and outline the project so they can quickly get to work.*

3. Execution:

You've received business approval, developed a plan, and built your team. Now it's time to get to work. The execution phase turns your plan into action. The project manager's job in this phase of the project

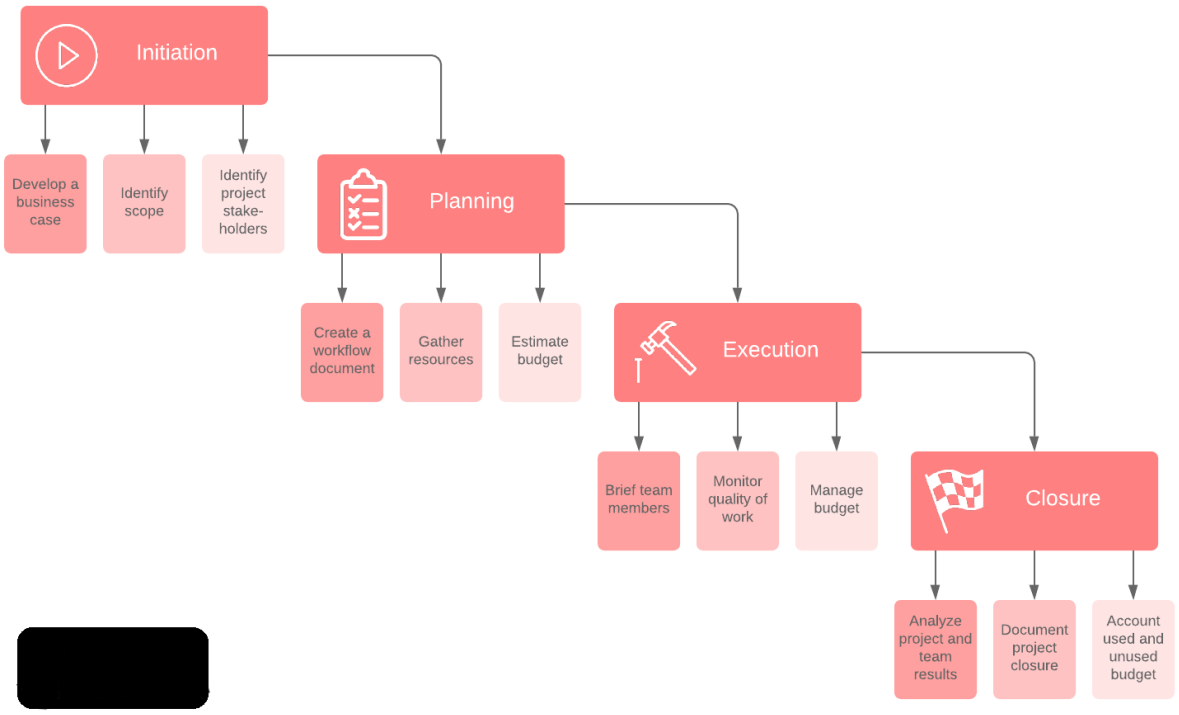
management life cycle is to keep work on track, organize team members, manage timelines, and make sure the work is done according to the original plan.

- ***Project management steps for the execution phase:***
- *Creating tasks and organizing workflows: Assign granular aspects of the projects to the appropriate team members, making sure team members are not overworked.*
- *Briefing team members on tasks: Explain tasks to team members, providing necessary guidance on how they should be completed, and organizing process-related training if necessary.*
- *Communicating with team members, clients, and upper management: Provide updates to project stakeholders at all levels.*
- *Monitoring quality of work: Ensure that team members are meeting their time and quality goals for tasks.*
- *Managing budget: Monitor spending and keeping the project on track in terms of assets and resources.*

4. Closure:

Once your team has completed work on a project, you enter the closure phase. In the closure phase, you provide final deliverables, release project resources, and determine the success of the project. Just because the major project work is over, that doesn't mean the project manager's job is done—there are still important things to do, including evaluating what did and did not work with the project.

- ***Project management steps for the closure phase:***
- *Analyzing project performance: Determine whether the project's goals were met (tasks completed, on time and on budget) and the initial problem solved using a prepared checklist.*
- *Analyzing team performance: Evaluate how team members performed, including whether they met their goals along with timeliness and quality of work.*
- *Documenting project closure: Make sure that all aspects of the project are completed with no loose ends remaining and providing reports to key stakeholders.*
- *Conducting post-implementation reviews: Conduct a final analysis of the project, taking into account lessons learned for similar projects in the future.*
- *Accounting for used and unused budget: Allocate remaining resources for future projects.*



Problem 2: Define and explain briefly Major Types of Construction Projects?

Answer: *Construction is a process which consists of assembling or building infrastructure. It includes all work and materials required for the construction of finished structures. This also includes site foundations, preparations, electrical work, mechanical work, and any work required to complete projects.*

- *Here are a few types of construction projects:*

1. Residential:

These projects include townhouses, houses, condominiums, apartments, cottages, subdivisions, and single-unit dwellings. The designs are usually made by engineers and architects and construction executed by builders.

2. Building:

Constructing buildings is the most common type of project. It's a process of adding structures to properties. Most projects are small renovations or room additions. Most new building projects involve construction of sheltered enclosures with access for housing people, machinery, equipment, and supplies. It also includes installation of equipment and utilities.

3. ***Commercial and institutional:***

These buildings include a whole lot of project sizes and types like hospitals, clinics, schools, universities, stadiums, sports facilities, shopping centers, retail stores, warehouses, manufacturing plants, etc. Special engineers and architects are usually hired for the construction of these buildings. There are very few competitors in this market segment since it costs a lot of money and requires greater sophistication in terms of commercial and institutional buildings when compared with residential projects.

4. ***Industrial:***

This is just a small part of the construction industry but is a very important part nonetheless. The projects are usually owned by large industrial corporations like medicine, power generation, manufacturing, petroleum, etc.

5. ***Highway:***

This involves alteration, repair, and construction of roads, streets, alleys, highways, runways, paths, etc. It also includes incidental construction.

6. ***Heavy:***

Lastly, these projects tend to involve projects which aren't classified properly as buildings or highways. Some examples include dams, sewer line projects, sewage treatment facilities, dredging projects, flood control projects, water treatment plants, etc.

These are some of the most popular types of construction today.

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