Project Management Assignment

TPJ655

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Part 1 – An Introduction to Project

1.1 Explain what a project is.

A project is a temporary endeavor undertaken to create a unique product, service or result. Projects can be large or small and involve one person or thousands of people, they can be done in one day or take years to complete.

1.2 List at least four attributes of a project.

1. A project has a unique purpose. Every project should have a well-defined objective.
2. A project is developed using progressive elaboration or in an iterative fashion. Projects are often defined broadly when they begin, as time passes, the specific details of the project become clearer.
3. A project requires resources, often from various areas. Resources include people, hardware, software or other assets.
4. A project is temporary. Each project has a definite beginning and a definite end.

1.3 Elaborate on the terms "progressive elaboration" and "iterative fashion".

Progressive Elaboration involves continuously improving and detailing a plan as more detailed and specific information and more accurate estimates become available.

Iterative fashion is a process for arriving at a decision or a desired result by repeating rounds of analysis or a cycle of operations. The objective is to bring the desired result closer to discovery with each iteration (repetition).

1.4 Describe what project management is and why it is important

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

Project management is important because these tools and techniques help assist project managers and their teams in carrying out work. Since project managers must not only strive to meet specific scope, time, cost and quality requirements of projects, they must also facilitate the entire process to meet the needs and expectations of the people involved in or affected by the project activities.

1.5 List and describe the four core functions of project management and elaborate on the three major constraints of project management.

The four core functions of project management are:

- Project scope management
  - Project scope management involves working with all appropriate stakeholders to define, gain written agreement for, and manage all the work required to complete the project successfully
- Project time management
  - Project time management includes estimating how long it will take to complete the work, developing an acceptable project schedule given cost-effective use of available resources and ensuring timely completion of the project
- Project cost management
  - Project cost management consists of preparing and managing the budget for the project
- Project quality management
  - Project quality management ensures that the project will satisfy the stated or implied needs for which it was undertaken

1.6 List and describe four facilitating functions of project management.

The four facilitating knowledge areas of project management are:

- Human Resources
  - Project human resource management is concerned with making effective use of the people involved with the project
- Project communications
  - Project communications management involves generating, collecting, disseminating and strong project information
- Project risk management
  - Project risk management includes identifying, analyzing and responding to risks related to the project
- Project procurement management
  - Project procurement management involves acquiring or procuring goods and services for a project from outside the performing organization

1.7 Define what a stakeholder is, and provide at least four examples.

A stakeholder is involved in or affected by the project activities. Stakeholders can be project sponsors, project manager, project team and suppliers.

- Project Sponsors are people who invest into the development and completion of a project usually through a monetary means.
- Project manager is generally the sponsor that is responsible for completing the project, he or she needs to work with all project stakeholders to meet their expectations and needs.
- Project team is generally composed of a variety of different stakeholders, these stakeholders need to know exactly what work they must do and when they need to do it.
- The supplier provides materials required for the project to complete, Suppliers will require exact details on what items they need to provide, where and when to deliver those items.

1.8 Define Project Success

Project success is achieved when a desired goal or milestone for the project is met within the scope, time restraints, and budgeting costs set aside for the project. Should the project breach any of those constraints it will not be a total success.

Part 2 – Strategic Planning Process

2.1 Describe the purpose of project planning

The purpose of project planning is to anticipate or predict as many dangers and problems as possible; and to plan, organize and control project activities to ensure that project tasks are successfully completed, and deadlines are met.

2.2 Apply SWOT Analysis (Strength, Weakness, Opportunities, and Threats) to examine your own project.

- Strength
    - Does not require a large amount of parts to perform its function
    - Parts are readily available, and can be found for cheap
- Weakness
    - Relies on resources (Azure Cloud) to be available and functional or project will not function
    - Requires an internet connection to access crucial resources
    - Requires the Machine AI to correctly identify and return a license plate
- Opportunity
    - Can be implemented almost anywhere
    - Setup is quick and relatively simple
    - Can easily be modified to suit the customers needs, residential or corporate, in means of consumer interaction and security
- Threats
    - Cloud service may be denied at any point in time depending on the provider
    - A more efficient service may be created
    - A consumer may create their own local recognition system removing the need of using an external resource for machine learning
    - Power outages or loss of internet connection will render the system useless

Part 3 – Initiating Projects

3.1 List the five Project management process steps.

The five project management steps are as follows:

- Project Charter, Initiation, this is the start of the project and the goal of this phase is to define the project at a board level.
- Defining and Planning, this phase focuses on developing a plan that everyone will follow, generally this plan is used to generate a scope statement, work breakdown structure, a Gantt chart, communication and risk management plan.
- Launch or Execution, this phase is where deliverables are developed and completed. This phase generally has a lot happening, status reports, development updates, generally this phase is started off with a "kick-off" meeting.
- Performance & Control, this phase is about measuring project progress and performance to ensure that everything is going according to the plan created.
- Project Close, this phase marks the completion of the project, all goals and deliverables are achieved and generally a final project report is generated at this time.

3.2 Describe the purpose of the monitoring and controlling process

The main purpose of this phase is to ensure that everything going on with the project aligns with the project management plan and that it is within the deadline. There are four key performance indicators for this phase:

- Project objectives are used to measure if a project is on schedule and within the budget
- Quality Deliverables, this determines if task specific deliverables are being met
- Effort and cost Tracking, this type of tracking informs us whether a project will meet its deadlines and budget limitations based on its current progress
- Project Performance, this helps us monitor changes in the project. It looks at issues that arise within a project and how they are addressed. These issues can occur from unforeseen circumstances and or changes to the project scope

3.3 Describe good practices of team meetings (give four points).

Some good practices of team meetings are as follows:

1. Prepare a meeting agenda with clear objectives to keep everyone on topic, as it is easy to veer off topic when there are multiple people involved in a meeting.
2. Set a start and end time. With the agenda created, setting a start and end time for the meeting will be easy to determine, it will also keep you on topic as the time to discuss the agenda is limited.
3. Designate a meeting leader. Meetings should have a point person, generally this is the person who called the meeting to lead a meeting and to keep things on track throughout the session.
4. Create action items and accountability. These help in ensuring that people understand what needs to be done. Generally, in a meeting, the meeting leader will assign action items to members along with deadlines and then inquire about them in the next meeting to keep everyone up to date with the progress.

Part 4 – Planning Projects

4.1 Explain what Work Breakdown Structure (WBS) is.

A work breakdown structure defines all the tasks that a project needs to accomplish, organized into multiple levels and generally displayed graphically in a hierarchical format.

4.2 Explain what a WBS dictionary is.

A WBS dictionary is a document which contains detailed information about the project activity, deliverables and the schedule of each component in the project WBS.

4.3 Explain the purpose of creating a Gantt chart.

The main and essential purpose of a Gantt chart is to provide a visual timeline with the start and finish dates of specific tasks. Gantt charts also show the relationship between tasks as some rely on the completion of other tasks before work on them can be started. By being able to look through the timeline provided in a Gantt chart, the project managers can clearly recognize where resources need to be anticipated, allocated or shared to maximize the use of those resources.

4.4 Explain what a milestone represents in a Gantt chart.

Milestones are used to indicate important date and have a zero duration. Important dates refer to any key goals or goals that occur in the project plan. (Creating Gantt Charts)

4.5 Explain what dependency lines on a Gantt chart represent.

"Dependencies allow you to define relationships between tasks and visualize the sequence in which they must be completed in order to close a project." (Forsythe, David) There are four types of dependencies: finish to start, start to start, finish to finish, and start to finish. The first, and the most common, dependency is *finish to start*. This means that for a new task to start, the previous linked task must be completed fully. The second, *start to start*, requires the previous linked task must have been started in order to start. The third, *finish to finish*, the predecessor must be completed in order to complete the active task. Lastly, *start to finish*, the preceding task must be started to complete the active task.

4.6 State what category of dependencies was used in your Gantt chart.

In our project, Z Recognition, our Gantt chart exclusively used the dependency finish to start, as all our tasks only require preceding tasks to be completed.

4.7 Describe what a project buffer is.

"A project buffer protects the project deadline against violations in the critical chain." (Vanhoucke, Mario) It is a reserve at the end of the project plan, that will be used in the event of any previous tasks taking more time to complete than planned. Essentially it is a grace period for any loose ends so that the project will be completed on time. (Umar)

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