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ENG384 SHORT TEST 2

You have been invited by the current president of Nigeria, General Muhammadu Buhari to make an argument for the optimization of engineering resources in the country.  As an aspiring Engineer, briefly discuss your view on this and make viable recommendations that will facilitate timely completion of engineering projects within the allocated budget without jeopardizing economic and legal regulations of Nigeria

Solution

When considering whether or not you have a project on your hands, there are some things to keep in mind. First, is it a project or an ongoing operation? Second, if it is a project, who are the stakeholders? And third, what characteristics distinguish this endeavor as a project?

Projects have several characteristics:

* Projects are unique.
* Projects are temporary in nature and have a definite beginning and ending date.
* Projects are completed when the project goals are achieved or it’s determined the project is no longer viable.

A successful project is one that meets or exceeds the expectations of the stakeholders.

The project management procedures put in place for the project must ensure that monitoring is focused on the key factors that the results obtained by monitoring are timely as well as accurate, and that effective control systems are established and properly applied by the project team.

Project management involves five basic processes:

* **Initiating:** Undertaking the necessary actions to commence the project or project phase
* **Planning:** Identifying objectives and devising effective means to achieve them
* **Executing:** Co-ordinating the required resources to implement the plan
* **Controlling:** Monitoring of the project and taking corrective action where necessary
* **Closing:** Formalizing the acceptance of the project or phase deliverables (the ‘handover’), and terminating the project in a controlled manner

On any project, you will have a number of project constraints that are competing for your attention. They are cost, scope, quality, risk, resources, and time.

* **Cost** is the budget approved for the project including all necessary expenses needed to deliver the project. Within organizations, we as the engineers have to balance between not running out of money and not underspending because many projects receive funds or grants that have contract clauses with a “use it or lose it” approach to project funds. Poorly executed budget plans can result in a last-minute rush to spend the allocated funds. For virtually all projects, cost is ultimately a limiting constraint; few projects can go over budget without eventually requiring a corrective action.
* **Scope** is what the project is trying to achieve. It entails all the work involved in delivering the project outcomes and the processes used to produce them. It is the reason and the purpose of the project.
* **Quality** is a combination of the standards and criteria to which the project’s products must be delivered for them to perform effectively. The product must perform to provide the functionality expected, solve the identified problem, and deliver the benefit and value expected. It must also meet other performance requirements, or service levels, such as availability, reliability, and maintainability, and have acceptable finish and polish. Quality on a project is controlled through quality assurance (QA), which is the process of evaluating overall project performance on a regular basis to provide confidence that the project will satisfy the relevant quality standards.
* **Risk** is defined by potential external events that will have a negative impact on your project if they occur. Risk refers to the combination of the probability the event will occur and the impact on the project if the event occurs. If the combination of the probability of the occurrence and the impact on the project is too high, you should identify the potential event as a risk and put a proactive plan in place to manage the risk.
* **Resources** are required to carry out the project tasks. They can be people, equipment, facilities, funding, or anything else capable of definition (usually other than labour) required for the completion of a project activity.
* **Time** is defined as the time to complete the project. Time is often the most frequent project oversight in developing projects. This is reflected in missed deadlines and incomplete deliverables. Proper control of the schedule requires the careful identification of tasks to be performed and accurate estimations of their durations, the sequence in which they are going to be done, and how people and other resources are to be allocated. Any schedule should take into account vacations and holidays.