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CS460 Senior Capstone Project 1

Homework #5

**Review Project Quality Management (PMBOK KA-8)**

The quality of a product is measured by its ability to satisfy its requirements. A project’s quality is managed through planning, assurance, and control measures to ensure its requirements are met. Customer satisfaction can be tied to the project producing what it said it would produce as well as the end product’s ability to meet the needs in the real world. It is also important to plan ahead and constantly evaluate project quality because it is much easier to correct possible problems before the product is finished. Planning for and controlling quality is a crucial task for management, but both require the whole team to assist to produce a high quality product.

1. Quality planning

Quality planning is a process where relevant project requirements are analyzed so that the team can determine how to satisfy them. There are several inputs for this process that are key to its success. The first is the quality policy, which is a document stating the team’s standards for quality. This document is normally provided to the team by top level management and serves as a common standard for all the teams in the company. The next input is the scope statement, which outlines the key requirements for the project. The project description provides further technical details for the different requirements. Finally, any previously created project outputs or relevant industry standards may assist in creating the quality plan.

Different tools can be used to create the quality plan. A benefit to cost analysis can help determine if the quality plan is financially feasible for the project. Benchmarking, or the process of comparing internal methodology to those of other companies, can help provide insight into possible areas to improve upon. Finally, flowcharts can be used to illustrate how the plan will impact different parts of the project.

The end result of the planning phase is a quality management plan. This plan explains how the team will implement the quality policy. Operational definitions will set rules on how different aspects of the project will be evaluated in accordance with the plan. Checklists can be created to ensure specific tasks are completed. Finally, the planning phase may produce other resources that can be used in later parts of the project.

1. Quality assurance

Quality assurance consists of the actions taken to assess and ensure the quality plan is implemented. As such, its inputs are the quality management plan and any operational definitions.

The same tools used to create the plan can also be used during the assurance phase. Periodically quality audits can be conducted to assess the progress in upholding the quality plan. In these audits the operational definitions are used to measure the project’s quality.

The result of quality assurance is improved quality. This is attained by correcting issues found during quality audits to ensure that the overall quality policy is maintained throughout the project.

1. Quality control

Quality control looks at the results of project results to determine if the meet quality standards and to find and take action to prevent or correct undesirable results.

The process looks at the quality management plan and its operational definitions to evaluate key project outputs. It may also look at checklists to ensure all tasks are completed.

Quality control uses inspection to look at the project processes. The results of these inspections can be illustrated on control plans, which show results over time to identify trends. Pareto charts can be used to show the frequency of individual inspection results, which can help identify key problem areas. If there are too many things to inspect then statistical sampling can be used to randomly select parts of the project to inspect. Finally, flowcharts can be used to identify how problems might occur, which can then be used to help avoid problems. All of these tools can be used to determine trends in the project’s quality to help determine the projected quality of the end product.

The result of quality control should be quality improvement. This is attained by accepting portions of the project that pass inspection and rejecting the parts that do not. If a portion of the project is rejected, then it must be reworked to make it meet the quality standards. The checklists created in the planning phase can be used to ensure all tasks are completed prior to finishing the project. Finally, if a process is deemed unacceptable then it can be adjusted to ensure that it produces outputs that meet the quality policy.