



# Project Quality Management

## Study Notes

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# Points to Note

- Please read Chapter 8 from Project Management Institute, A Guide to the Project Management Body of Knowledge, (*PMBOK® Guide*) – Fifth Edition, Project Management Institute, Inc., 2013 (pages 227– 254).
- The study notes explain topics that are important for PMP® exam preparation and you can expect several questions from these topics.
- Pay close attention to all the terms used. It is very important to understand all the concepts discussed in this chapter.
- Try to relate the concepts to real life examples.
- After reading the study notes, please answer the chapter test questions in this knowledge area. The chapter questions improve your understanding of the concepts discussed in this study notes.



# What is Project Quality Management?

- \*Includes the processes and activities of the performing organization that determine quality policies, objectives, and responsibilities so that the project will satisfy the needs for which it was undertaken.
- Addresses both the management of the project and the deliverables of the project.
- The processes related to Project Quality Management are:
  - Plan Quality Management
  - Perform Quality Assurance
  - Control Quality

Please refer *PMBOK® Guide* - Fifth Edition, figure 8-1, page 230. This will provide an overview of the processes related to Project Quality Management.

\*This definition is taken from the Glossary of the Project Management Institute, A Guide to the Project Management Body of Knowledge, (*PMBOK® Guide*) – Fifth Edition, Project Management Institute, Inc., 2013



# Quality

- Quality is defined as “the degree to which a set of inherent characteristics fulfill requirements”.
- Basic approach to Quality discussed here is intended to be compatible with International Organization for Standardization (ISO ) norms.
- In order to ensure customer’s satisfaction and achieve quality, the project’s deliverables have to conform to requirements and possess fitness for use (must satisfy real needs).
- Every project should have a quality management plan and should have data to demonstrate compliance with the plan.



# Quality Policy

- \*A policy specific to the Project Quality Management Knowledge Area, it establishes the basic principles that should govern the organization's actions as it implements its system for quality management.
- Overall intentions and direction of an organization with regard to quality.
- Approved by the top management.

\*This definition is taken from the Glossary of the Project Management Institute, A Guide to the Project Management Body of Knowledge, (*PMBOK® Guide*) – Fifth Edition, Project Management Institute, Inc., 2013



# Flowchart

- \*The depiction in a diagram format of the inputs, process actions, and outputs of one or more processes within a system.
- \*\*Displays the sequence of steps and the branching possibilities that exist for a process which transforms one or more inputs into one or more outputs.
- They show activities, decision points and the processing order.
- During quality planning phase, it assists the project team to foresee quality problems that might occur.
- Also referred as process maps
- May prove useful in understanding and estimating the cost of quality in a process.
- Some of the common flowcharting tools and techniques:
  - Cause-and-effect diagrams (Ishikawa/Fishbone diagrams)
  - System or Process Flowcharts

\*This definition is taken from the Glossary of the Project Management Institute, A Guide to the Project Management Body of Knowledge, (*PMBOK® Guide*) – Fifth Edition, Project Management Institute, Inc., 2013

\*\*Project Management Institute, A Guide to the Project Management Body of Knowledge, (*PMBOK® Guide*)– Fifth Edition, Project Management Institute, Inc., 2013, Page 236



# Quality Management Plan

- \*Describes how an organization's quality policies will be implemented.
- Describes how the project management team plans to achieve the quality requirements set for project.
- Is a component of the project or program management plan
- May be formal or informal, highly detailed or broadly framed, based on the requirements of the project
- Should be reviewed early in the project to make sure that decisions taken are based on accurate information (this review would also help reduce cost and schedule overruns caused by rework)
- The project management team should determine the appropriate levels of accuracy and precision for use in the quality management plan.

\*This definition is taken from the Glossary of the Project Management Institute, A Guide to the Project Management Body of Knowledge, (*PMBOK® Guide*) – Fifth Edition, Project Management Institute, Inc., 2013



# Perform Quality Assurance

- \*The process of auditing the quality requirements and the results from quality control measurements to ensure that appropriate quality standards and operational definitions are used.
- May support the project team and the performing organization's management, the customer or sponsor, or other stakeholders not actively involved in the work of the project.
- Provides continuous process improvement thereby improving the quality of all processes involved, reducing waste and eliminating activities that do not add value.

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# Control Quality

- \*The process of monitoring and recording results of executing the quality activities to assess performance and recommend necessary changes.
- \*\*Identifies the cause of poor process or product quality and recommends and/or takes action to eliminate them
- \*\*Validates that project deliverables and work meet the requirements specified by key stakeholders necessary for final acceptance.
- Should be performed throughout the project.

## **Please note:**

The project management team may have a working knowledge of statistical control processes to evaluate data contained in the control quality outputs.

\*This definition is taken from the Glossary of the Project Management Institute, A Guide to the Project Management Body of Knowledge, (*PMBOK® Guide*) – Fifth Edition, Project Management Institute, Inc., 2013

\*\*Project Management Institute, A Guide to the Project Management Body of Knowledge, (*PMBOK® Guide*)– Fifth Edition, Project Management Institute, Inc., 2013, Page 248



# Tools and Techniques used for Control Quality

- Seven basic quality tools
- Statistical sampling
- Inspection
- Approved change requests review

It is most likely that some questions may be asked in the PMP Certification exam on tools and techniques. So, please spend some time to understand them (*PMBOK® Guide - Fifth Edition* pages 236 – 239 and 252).



# Seven Basic Quality Tools

- Also known as 7QC Tools
- Used within the context of the PDCA cycle to solve quality-related problems
- The seven basic quality tools are:
  - Cause-and-effect diagrams (also known as Fishbone diagrams or Ishikawa diagrams)
    - \*A decomposition technique that helps trace an undesirable effect back to its root cause.
  - Flowcharts (also referred as Process maps)
    - \*The depiction in a diagram format of the inputs, process actions, and outputs of one or more processes within a system.
  - Checksheets
    - \*A tally sheet that can be used as a checklist when gathering data.
  - Pareto diagrams
    - \*A histogram, ordered by frequency of occurrence, that shows how many results were generated by each identified cause

\*These definitions are taken from the Glossary of the Project Management Institute, A Guide to the Project Management Body of Knowledge, (PMBOK® Guide) – Fifth Edition, Project Management Institute, Inc., 2013



# Seven Basic Quality Tools (continued)

- Histograms
  - \*A special form of bar chart used to describe the central tendency, dispersion, and a shape of a statistical distribution.
- Control Charts
  - \*Graphic display of process data over time and against established control limits, which has a centerline that assists in detecting a trend of plotted values toward either control limit
- Scatter Diagrams (also called correlations charts)
  - \*Uses a regression line to explain or to predict how the change in an independent variable will change a dependent variable.

For more details regarding the seven basic quality tools, please spend some time to understand them (*PMBOK® Guide* - Fifth Edition pages 236 – 239).

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