

TOPIC
6

PROJECT QUALITY MANAGEMENT

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Learning Aspects

1. Project Quality
2. Project Quality management Process
3. Quality Management Terms
4. Project Quality management tools and techniques
 - *Cause & Effect Diagram Fishbone diagram*
 - *Quality audit*
 - *Benchmarking*
 - *Problem Solving*

Project Quality

Quality means conformance to requirements. (Crosby, 1979)

Quality as a delivered performance or result is “the degree to which a set of inherent characteristics fulfill requirements” ISO 9000 [18]

Project Quality Management processes

Project Quality Management addresses the management of the project and the deliverables of the project. It applies to all projects, regardless of the nature of their deliverables.

Quality measures and techniques are specific to the type of deliverables being produced by the project.

In either case, failure to meet the quality requirements can have serious negative consequences for any or all of the project’s stakeholders.

For example:

- Meeting customer requirements by overworking the project team may result in decreased profits and increased levels of overall project risks, employee attrition, errors, or rework.
- Meeting project schedule objectives by rushing planned quality inspections may result in undetected errors, decreased profits, and increased post-implementation risks.

5 levels of Effective quality management;

1. Usually, the most expensive approach is to let the customer find the defects. This approach can lead to warranty issues, recalls, loss of reputation, and rework costs.
2. Detect and correct the defects before the deliverables are sent to the customer as part of the quality control process. The control quality process has related costs, which are mainly the appraisal costs and internal failure costs.
3. Use quality assurance to examine and correct the process itself and not just special defects.
4. Incorporate quality into the planning and designing of the project and product.
5. Create a culture throughout the organization that is aware and committed to quality in processes and products.

TAILORING CONSIDERATIONS

The project manager will need to tailor the way Project Quality Management processes are applied. Considerations for tailoring include but are not limited to:

1. **Policy compliance and auditing.** What quality policies and procedures exist in the organization? What quality tools, techniques, and templates are used in the organization?
2. **Standards and regulatory compliance.** Are there any specific quality standards in the industry that need to be applied? Are there any specific governmental, legal, or regulatory constraints that need to be taken into consideration?
3. **Continuous improvement.** How will quality improvement be managed in the project? Is it managed at the organizational level or at the level of each project?
4. **Stakeholder engagement.** Is there a collaborative environment for stakeholders and suppliers?

Quality Management Terms

- **Quality Control (QC)** is synonymous with checking. It refers to all activities of review, inspection, and testing of the product or its technical process, with or without sampling and statistics.
- **Quality Assurance (QA)** includes quality activities outside the realm of checking and quality control. QA includes cross-departmental communication about quality, communication with vendors, redesign of the product or process to prevent error, and a variety of audit processes to make sure that work and management are being done to standards or in accordance with best practices.
- **Quality metrics** are quantifiable measures used to assess various aspects of a project's performance, such as cost, schedule adherence, customer satisfaction, and adherence to quality standards.

Quality Management Terms

- **Prevention** (keeping errors out of the process) and **inspection** (keeping errors out of the hands of the customer);
- **Tolerances** (specified range of acceptable results) and control limits (that identify the boundaries of common variation in a statistically stable process or process performance).
- **Cost of Quality (COQ)** includes all costs incurred over the life of the product by investment in preventing nonconformance to requirements, appraising the product or service for conformance to requirements, and failing to meet requirements (rework).

The Project Quality Management processes

1. **Plan Quality Management**—The process of identifying quality requirements and/or standards for the project and its deliverables, and documenting how the project will demonstrate compliance with quality requirements and/or standards.
2. **Manage Quality**—The process of translating the quality management plan into executable quality activities that incorporate the organization's quality policies into the project.
3. **Control Quality**—The process of monitoring and recording the results of executing the quality management activities to assess performance and ensure the project outputs are complete, correct, and meet customer expectations.

PROJECT QUALITY MANAGEMENT

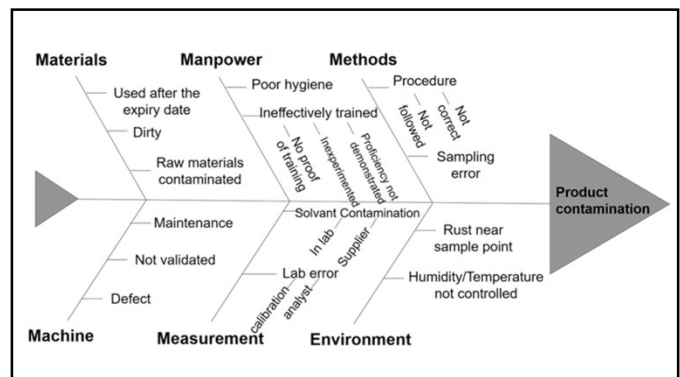
TOOLS & TECHNIQUES

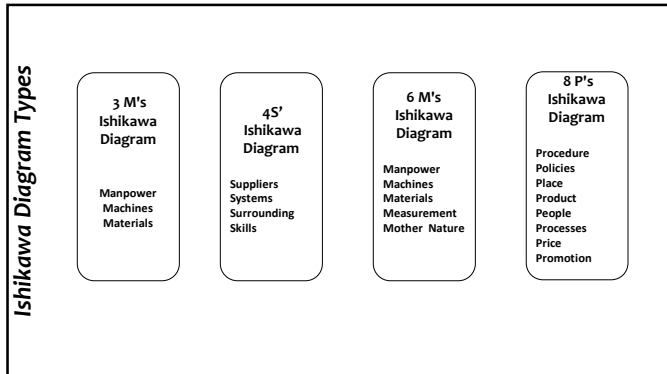
Cause-and-effect diagrams

Also known as fishbone diagrams, why-why diagrams, or Ishikawa diagrams.

this type of diagram breaks down the causes of the problem statement identified into discrete branches, helping to identify the main or root cause of the problem.

Ishikawa diagrams are management tools used for quality control that help identify the root causes of problems or defects found in business operations.





Quality Audits

An audit is a structured, independent process used to determine if project activities comply with organizational and project policies, processes, and procedures.

A quality audit is usually conducted by a team external to the project, such as the organization's internal audit department, PMO, or by an auditor external to the organization.

Quality Audits Objectives

May include but are not limited to:

- Identifying all good and best practices being implemented;
- Identifying all nonconformity, gaps, and shortcomings;
- Sharing good practices introduced or implemented in similar projects in the organization and/or industry;
- Proactively offering assistance in a positive manner to improve the implementation of processes to help raise team productivity; and
- Highlighting contributions of each audit in the lessons learned repository of the organization.

Types of Project Auditing

Either processes or results of processes can be audited. Depending on the Objective of the scope of the audit, different types of audit or review exist;

- Audits that consider (technical) project processes, often in combination with project deliverables, commonly referred to as project audit or project review;
- Audits that concentrate on a very specific topic relevant to the project like risk audit, financial audit or sustainability audit;
- Audits that consider specific project deliverables like the design reviews or contract reviews;
- Audits that solely consider the project management process and its results referred to as a management audit of a project or simply a project management audit

Benchmarking

Benchmarking is the process of identifying, understanding, and adapting outstanding practices and processes from organizations anywhere in the world to help your organization improve its performance.

—American Productivity & Quality Center

A *benchmark* is a defined measure of productivity in comparison to something else..

Benchmarking involves comparing actual or planned project practices or the project's quality standards to those of comparable projects to identify best practices, generate ideas for improvement, and provide a basis for measuring performance.

Benchmarked projects may exist within the performing organization or outside of it, or can be within the same application area or other application area.

Problem Solving

Problem solving entails finding solutions for issues or challenges. Effective and systematic problem solving is a fundamental element in quality assurance and quality improvement.

Problems can arise as a result of the Control Quality process or from quality audits and can be associated with a process or deliverable. Using a structured problem-solving method will help eliminate the problem and develop a long-lasting solution.

Problem-solving methods generally include the following elements:

- Defining the problem,
- Identifying the root-cause,
- Generating possible solutions,
- Choosing the best solution,
- Implementing the solution, and
- Verifying solution effectiveness.