Quality management

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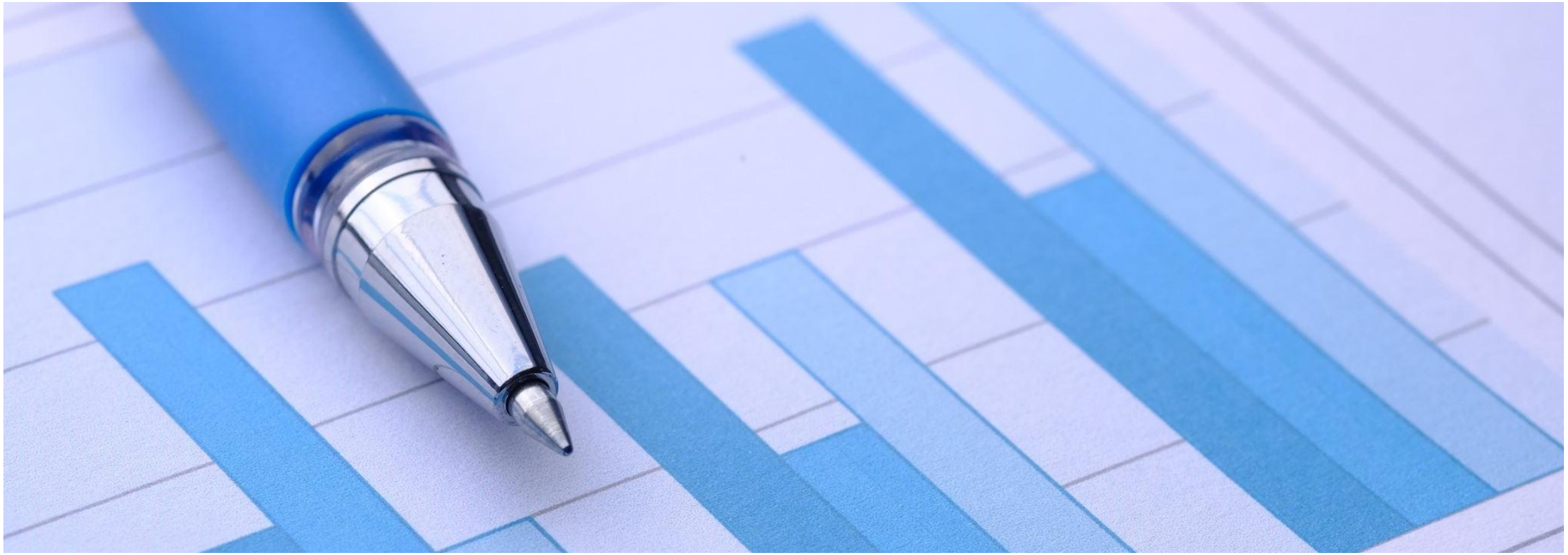
Project quality management



"Project Quality Management includes the processes for incorporating the organization's quality policy regarding planning, managing, and controlling project and product quality requirements in order to meet stakeholders' objectives. Project Quality Management also supports continuous process improvement activities as undertaken on behalf of the performing organization"

What is quality?

The degree to which a set of inherent characteristics fulfill requirements

Meets the agreed upon needs and requirements of the customer or/and stakeholder

Who is responsible for quality?

All members of the team

Ultimate responsibility lies with the project manager

Why is quality management important to a project manager?

Meeting expected quality increases customer satisfaction

Lower costs as fewer products are returned, or services are criticized

Strengthens the brand

Prevents issues and lowers impact of identified problems

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.

2. Plan project quality management

"*The quality management plan … describes how applicable policies, procedures, and guidelines will be implemented to achieve the quality objectives … The quality management plan should be reviewed early in the project to ensure that decisions are based on accurate information*"

2. Plan the quality management: Inputs

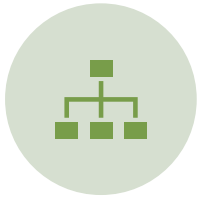
Project Charter – characteristics and criteria that influence quality

Scope statement

Risk Management Plan

Stakeholder Register – who has an interest in or impact on quality

Enterprise environmental factors – rules, guidelines and standards



Organizational process assets – policies, procedures, guidelines

Plan project quality management

The project quality management plan can include:

- Quality standards
- Quality objectives
- Quality roles and responsibilities
- Project deliverables and processes subject to quality review
- Quality control and management activities
- Quality tools
- Major procedures relevant for the project, such as dealing with nonconformance, corrective actions procedures, and continuous improvement procedures

Total Quality Management

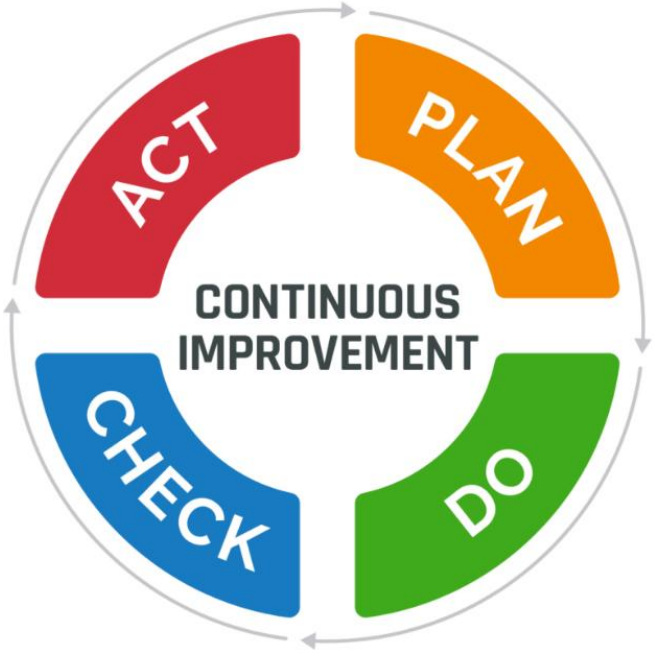
"A management approach of an organisation centred on quality, based on the participation of all its members and aiming at long term success through customer satisfaction and benefits to all members of the organisation and society.“ (ISO 8402)

Plan: Identify an opportunity for improvement and plan for implementation

Do: Implement the change

Check: Use performance measurement to assess the results of the change

Act/Adjust: Make necessary adjustments to achive the intended outcome from the plan phase



https://www.arenasolutions.com/

Project Management Quality Standard

ISO 10006:2018: Quality Management for Projects

(The ISO standard for project management is ISO 21500)

Goal of ISO 10006

- Managing each project is clear and well documented.
- Creating and maintaining the team is documented.
- Managing change on the project is apparent and documented.
- Managing risk is continuous, is documented and followed.
- Reviewing task completion is documented and followed.
- Reviewing the budget is documented and followed.
- Closing and evaluating the project is documented and followed.

https://bia.ca/combining-the-iso-10006-and-pmbok-to-ensure-successful-projects/

Quality Standards
(for deliverables)

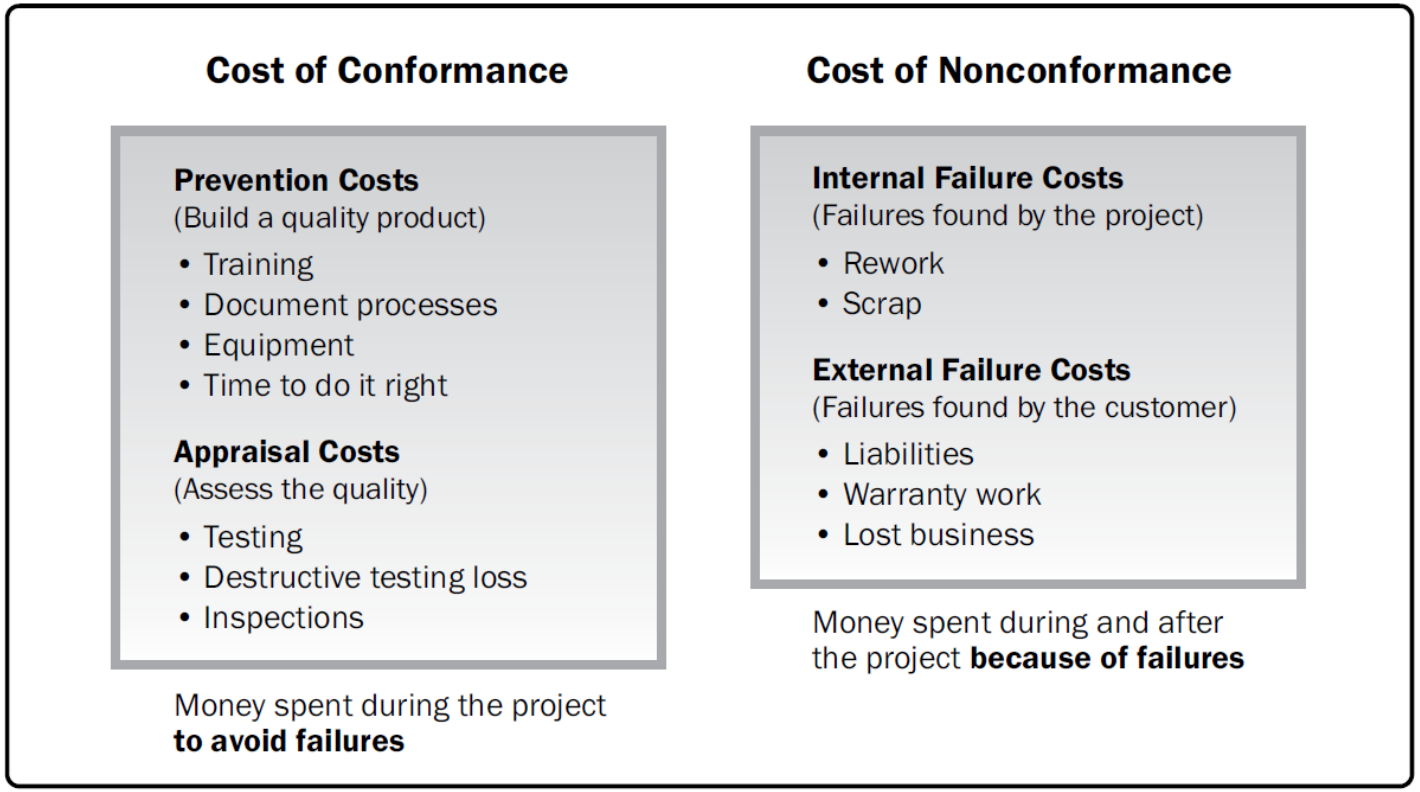
Quality standards are structured guidelines, systems, and requirements that organizations follow to ensure consistent quality in their processes and products. While commonly associated with manufacturing, these standards are established to promote customer satisfaction and ensure compliance.

Cost of quality

Cost of quality is a way to compare planned prevention costs with possible corrective costs indicating the total quality cost of a project, e.g., the money spent to ensure a satisfied stakeholder.

- Cost quality is the total cost of conformance and non-conformance work that is required to complete the project to the stakeholder specialization
- It can take the form of; warrantee work, returns, recalls, or any other post project costs
- Thus, it is important to try to reduce the costs before they occur through high quality standards – do it right the first time!

Cost of quality



Cost of quality: electric car example

Electric car: Cost of quality			
6/6/17			
Current Costs	**Current Cost of Quality**	**Future Cost of Quality**	
1.4 Testing	$860.00		
1.4.2 Track Testing	$730.00		
Total Cost	**$1,590.00**		
Future Costs of Failures			
Team does not compete due to structural or electrical failure			
1.5.1 Travel		$2,642.00	
1.5.2 Event		$1,295.00	
Total Cost		**$3,937.00**	
			Total Difference **$2,347.00**
Testing saves $2,347.00			

Group work

→What are the quality requirements in your project?

→Calculate cost of quality

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3. Manage quality (quality assurance)

- The process of translating the quality management plan into executable quality activities that incorporate the organization´s quality policies into the project.

- During the Manage Quality process, quality requirements identified during the Plan Quality Process are turned into test and evaluation instruments, which are applied during the Control Quality process to verify these quality requirements are met by the project.

Quality assurance

Quality assurance includes:	Inspection of the processes and process improvements
	Is often overseen by a separate entity or group in the organization
	Uses tools to identify whether or not the project is meeting agreed upon quality standards

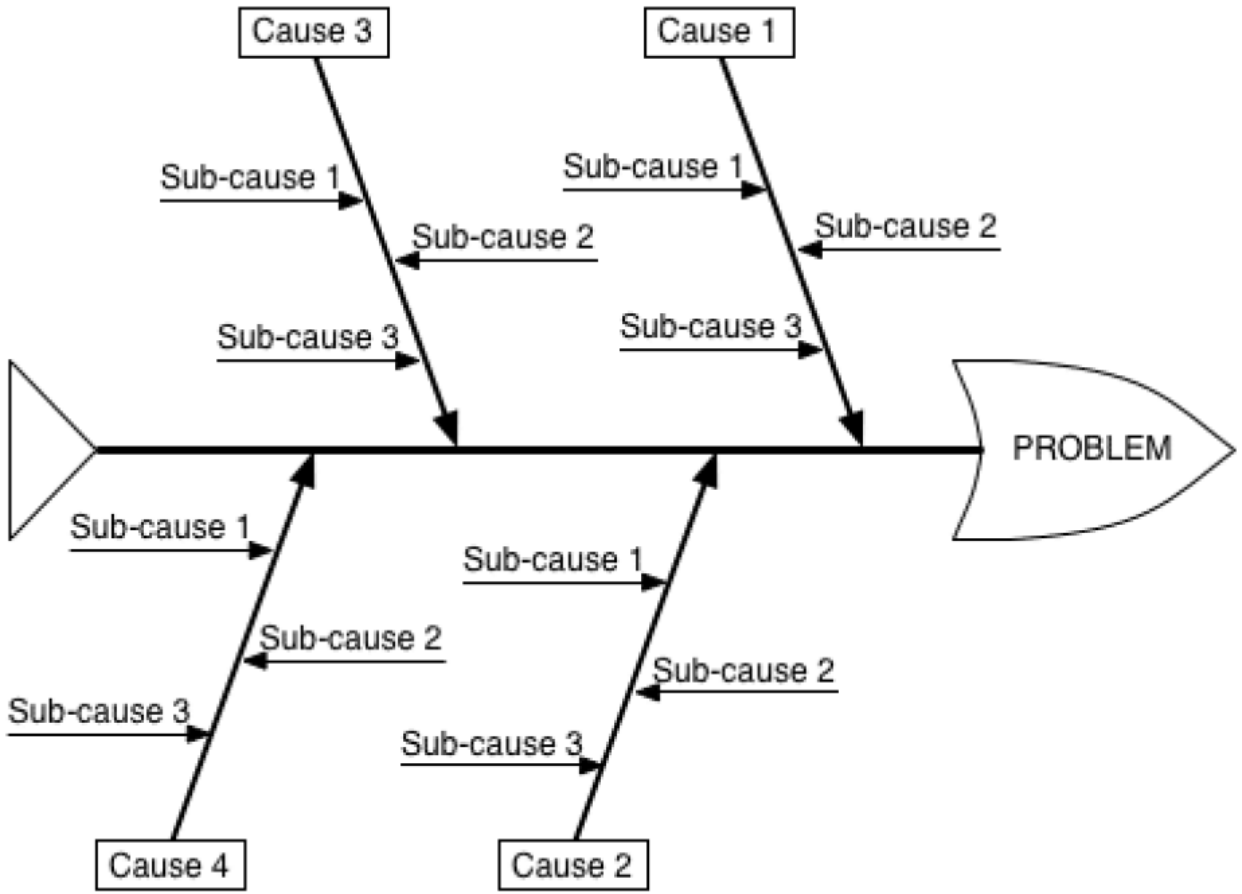
3. Manage quality: Outputs

QUALITY REPORT

“The information presented in the quality reports may include all quality management issues escalated by the team; recommendations for process, project, and product improvements; corrective actions recommendations (including rework, defect/bugs repair, 100% inspection, and more); and the summary of findings from the Control Quality process.”

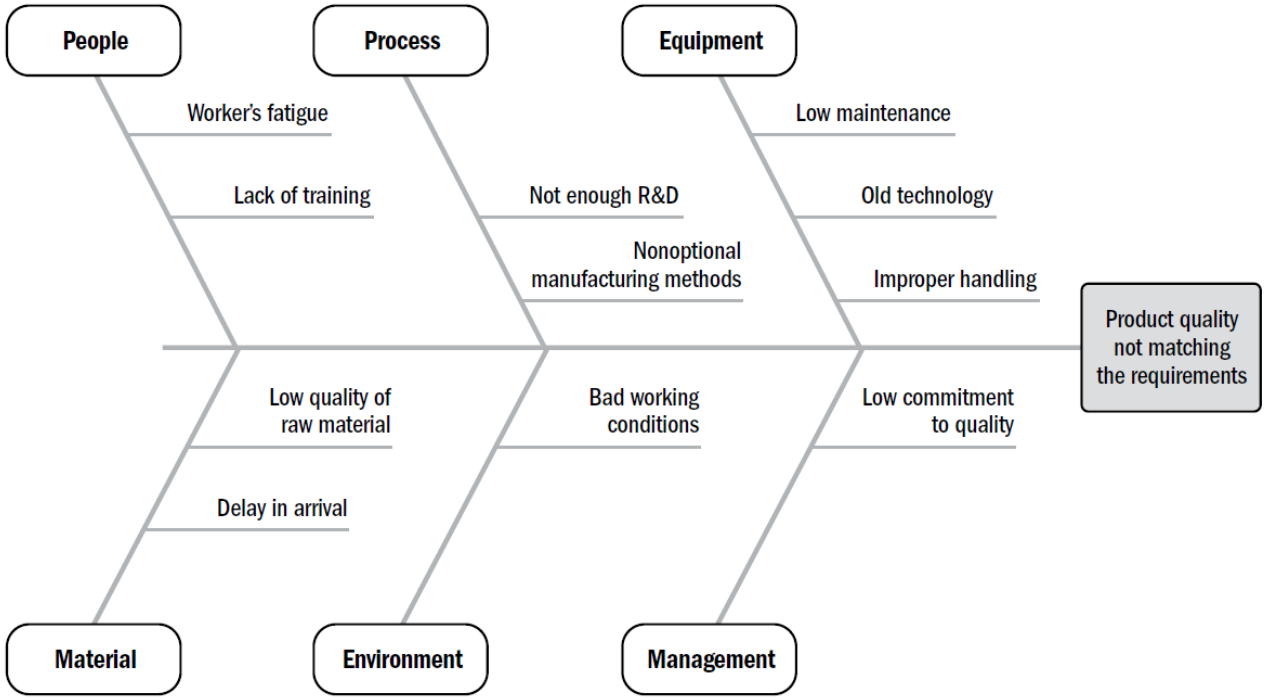
4. Manage and Control quality:

“Process of monitoring and recording results of executing the quality management activities in order to assess performance and ensure the project outputs are complete, correct, and meet customer expectations.”



Tools and techniques - Ishikawa Diagram

- Cause and effect model
- Identify root cause



Tools and techniques

- Cause and effect model

Tools and techniques

Defects/Date	Date 1	Date 2	Date 3	Date 4	Total
Small scratch	1	2	2	2	7
Large scratch	0	1	0	0	1
Bent	3	3	1	2	9
Missing component	5	0	2	1	8
Wrong color	2	0	1	3	6
Labeling error	1	2	1	2	6

- Checklists, check sheets, data analysis, inspection, testing, and product evaluation – frequencies and audits

Group work

→Create a Fishbone diagram and checklist