QUALITY
Management

What is **Quality** ?

❑ The standard of something as measured against other things of a similar kind; the degree of excellence of something.

❑ Quality is the degree to which an object or entity (e.g., process, product, or service) satisfies a specified set of attributes or requirements.

❑ The quality of something can be determined by comparing a set of inherent characteristics with a set of requirements.

Key **Element** of Quality

To define quality, you need to be clear about below terms:

❑ Validation: assurance that the product meets the agreed-upon needs

❑ Verification: compliance with requirements

❑ Precision: repeatable measures in a tight grouping

❑ Accuracy: closeness of a measure to the true value

❑ Tolerance: range of acceptable results

What is the main importance of **quality**?

❑ Quality is important for customer satisfaction that ultimately results in customer loyalty.

❑ Quality management assists an organization to create and developing a product/service which is desired by the customers.

❑ Quality establishes that higher revenues and productivity is achieved for the organization.

What & Why **Project quality**?

A quality plan helps the stakeholders and top-level management check the progress of a project.

It (quality plan) determines the scope of what's going to be measured and what metrics will define whether the project is successful, which makes it easy for stakeholders to analyze the performance of a project.

What is project quality requirements?

❑ A quality requirement refers to a condition or a capability that must be present in a requirement.

❑ They represent that what's need to validate the successful completion of a project deliverable.

❑ The easiest of quality requirements to capture are the express ones.

Project Quality Management

Process of continually measuring the quality of all activities and taking corrective action until the team achieves the desired quality.

Planning

Execution

It helps to:

- Control the cost of a project

- Establish standards to aim for

- Determine steps to achieve standards

Quality Management Processes

Plan Quality Management

Perform Quality Assurance

Control Quality

Quality Management is tough !

- ❏ Most project managers intend to create the best possible product or service.

- ❏ But even the most skilled, educated teams, with the most modern tools, may fail without the right project quality management plan in place.

- ❏ Measuring quality may seem like something you can't do until after the project is complete.

- ❏ However, project quality management should be planned from the beginning and monitored throughout

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Plan Quality Management

Process of identifying and documenting quality requirements and/or standards for the project and product and determining how to satisfy them.

Quality Planning

❑ A good quality management plan starts with a clear definition of the goal of the project.

❑ First, be clear on what the product or deliverable is supposed to accomplish.
- Then, ask yourself:
- What does it look like?
- What is it supposed to do?
- How do you measure customer satisfaction?
- How do you determine whether the project was successful?

❑ Answering these questions , will help you identify and define quality requirements

❑ Helps you to discuss the approach and plans needed to achieve those goals.
- This includes:
- Assessing the risks to success
- Setting high standards
- Documenting everything

❑ Also key is defining the methods and tests to achieve, control, predict, and verify success. Be sure to include quality management tasks in the project plan and delegate these tasks to workgroups and/or individuals to report and track quality metrics.
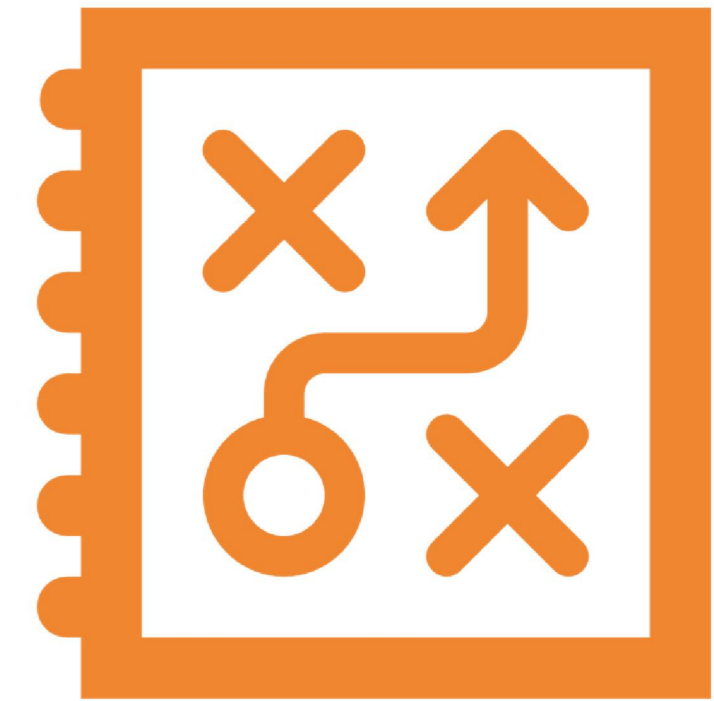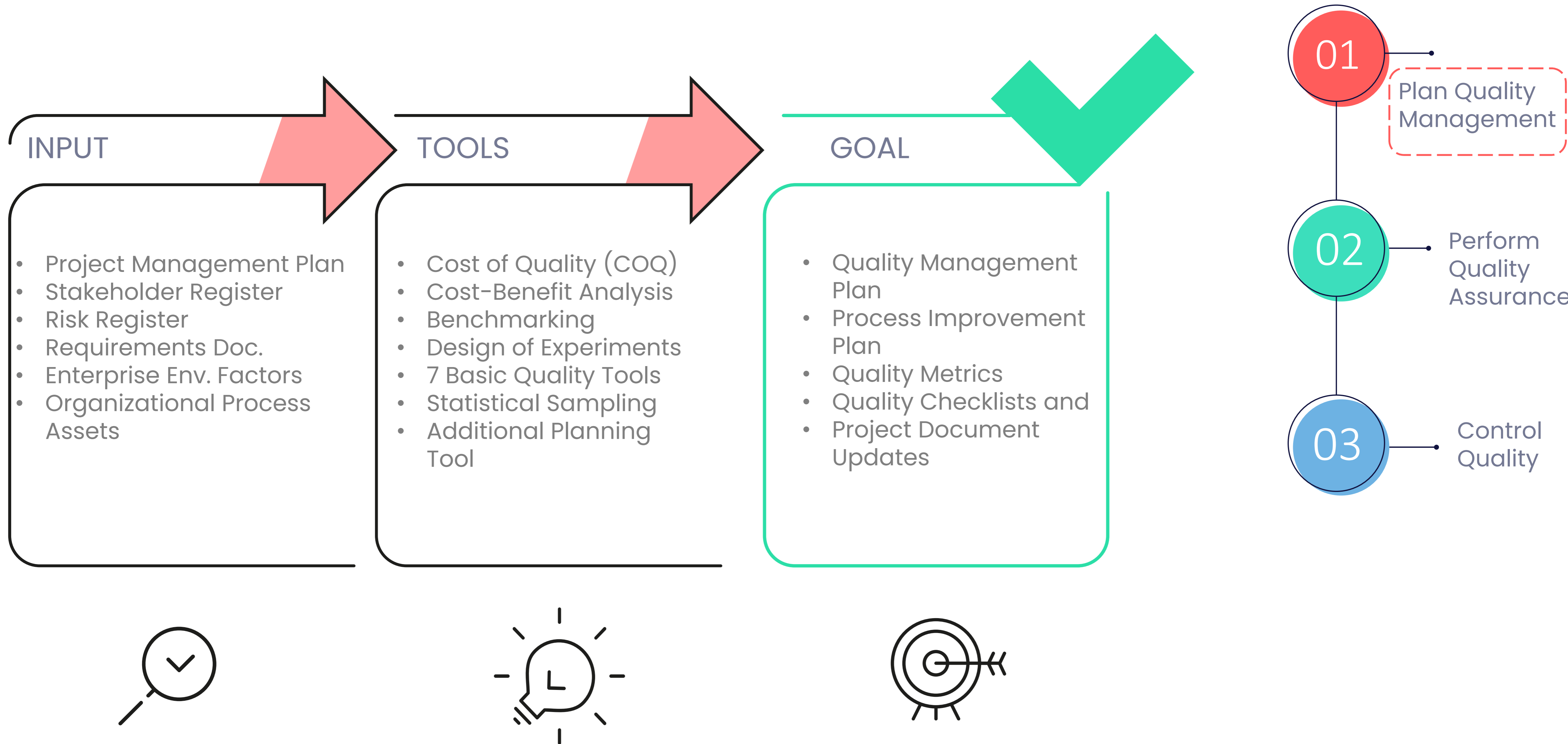
Quality Management Plan

Determines the quality standards that are applicable to the project and devising a way to satisfy them.

Quality management plan documents :

❑ The way the team will implement the quality policy

❑ The way the quality of both the project and the product will be assured

❑ The resources required to ensure quality

❑ The additional activities necessary to carry out the quality plan

➢ Identifying these items might require updates

➢ Evolving nature of the plan and project documents.

➢ Follow the corporate quality policies

➢ If a corporate quality policy does not exist, then create one.

Plan Quality Management

INPUT

- Project Management Plan
- Stakeholder Register
- Risk Register
- Requirements Doc.
- Enterprise Env. Factors
- Organizational Process Assets

TOOLS

- Cost of Quality (COQ)
- Cost-Benefit Analysis
- Benchmarking
- Design of Experiments
- 7 Basic Quality Tools
- Statistical Sampling
- Additional Planning Tool

GOAL

- Quality Management Plan
- Process Improvement Plan
- Quality Metrics
- Quality Checklists and
- Project Document Updates

01 Plan Quality Management

02 Perform Quality Assurance

03 Control Quality

A quality plan helps the stakeholders and top-level management check the progress of a project.

It determines the scope of what's going to be measured and what metrics will define whether the project is successful, which makes it easy for stakeholders to analyze the performance of a project.

Perform Quality Assurance

Application of planned, systematic quality activities to ensure/provide confidence (assurance) that the project will employ all processes needed to meet requirements.
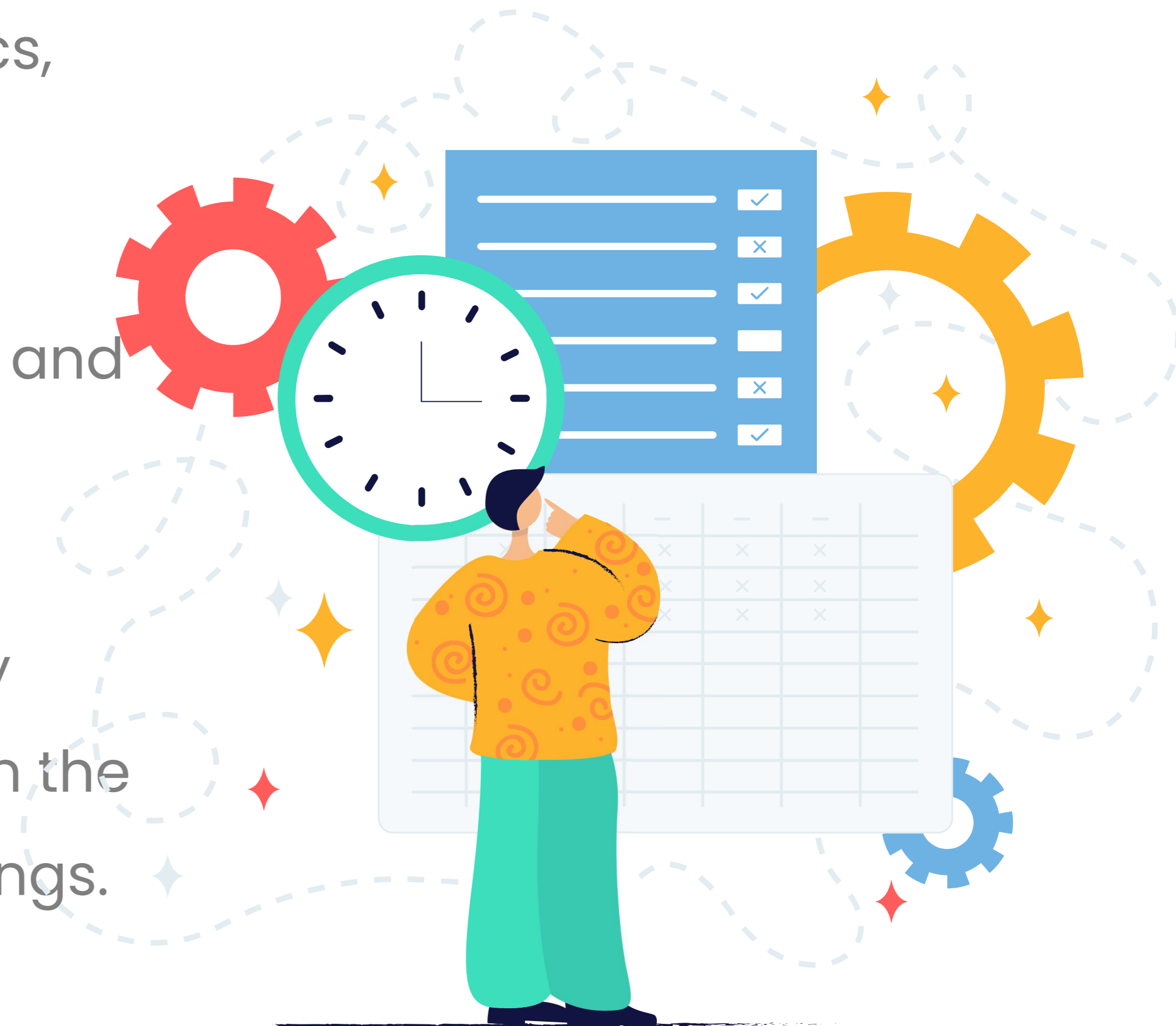
Quality Assurance

❑ Quality assurance provides evidence to stakeholders that all quality-related activities are being done as defined and promised.

❑ It ensures safeguards are in place to guarantee all expectations regarding quality outputs will be met.

❑ Quality assurance is done to the products and services delivered by a project, as well as the processes and procedures used to manage the project.

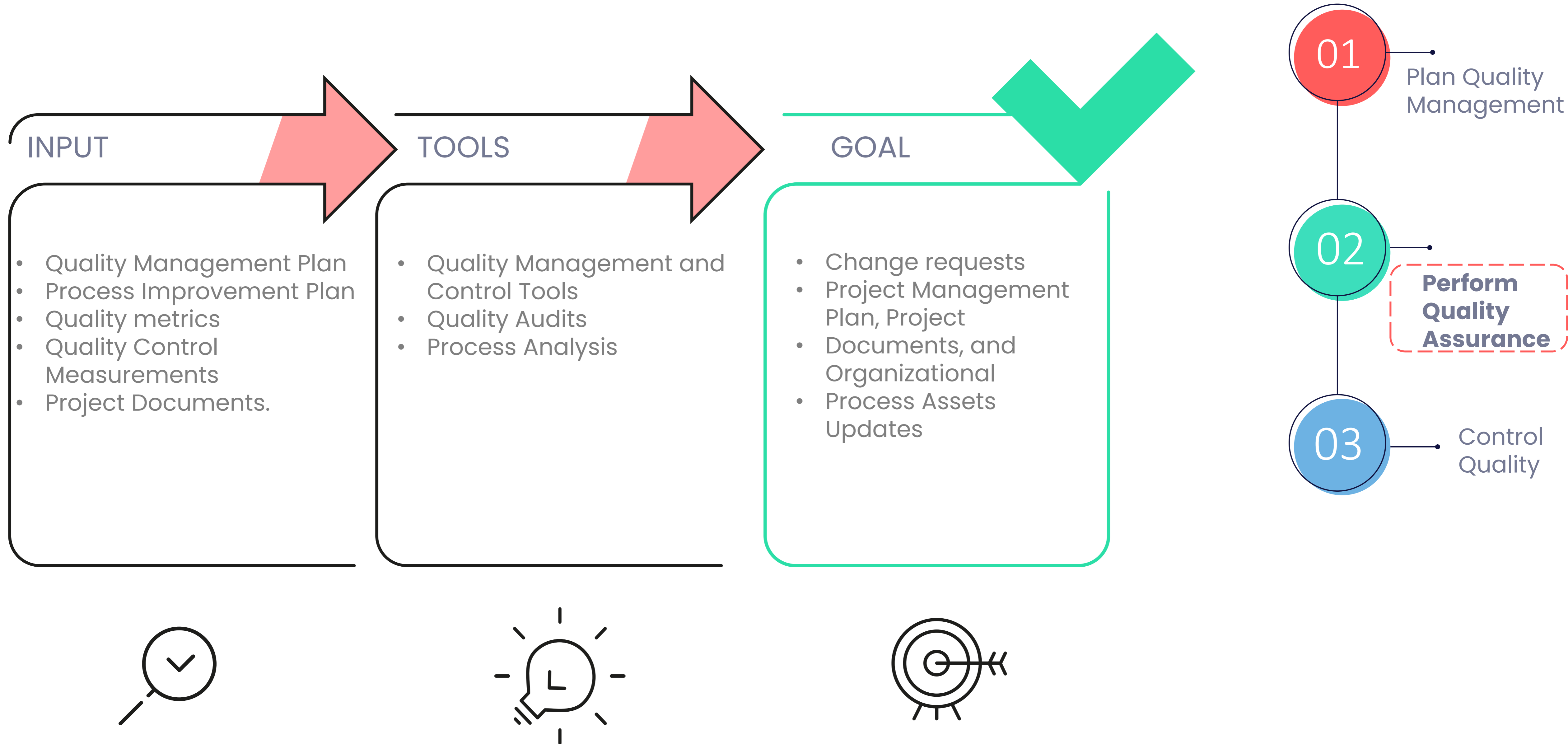❑ The team can do this through systems such as a process checklist or a project audit.

How Quality Assurance Implemented?

❑ Quality assurance tests use a system of metrics to determine whether the quality management plan is proceeding acceptably.

❑ By using both qualitative and quantitative metrics, you can effectively measure project quality with customer satisfaction.

❑ These tests or quality audits will help you predict and verify the achievement of goals and identify the need for corrective actions.

❑ Quality assurance tests will help you map quality metrics to quality goals, allowing you to report on the status of quality at periodic project review meetings.
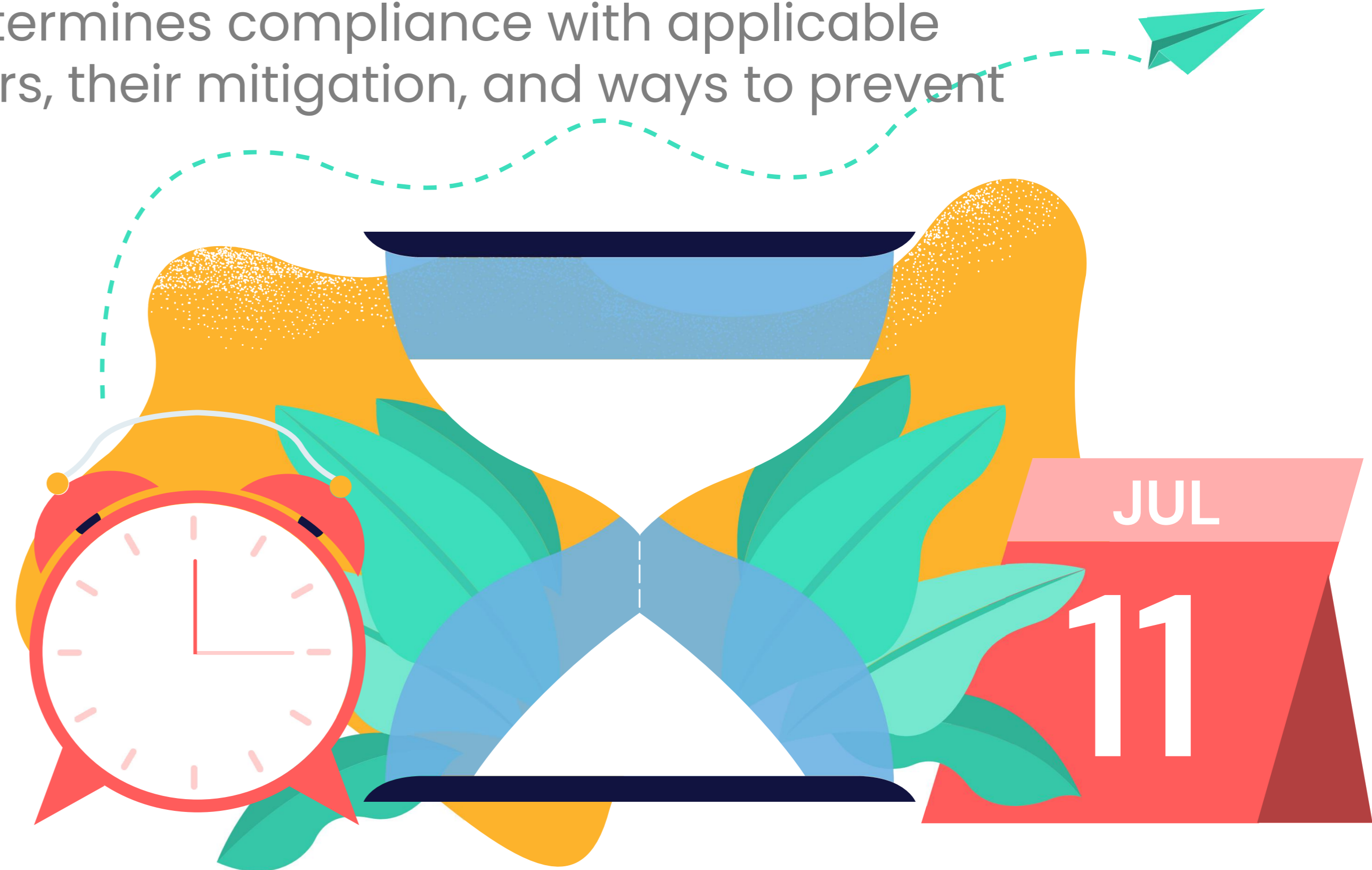
Perform Quality Assurance

INPUT

- Quality Management Plan
- Process Improvement Plan
- Quality metrics
- Quality Control Measurements
- Project Documents.

TOOLS

- Quality Management and Control Tools
- Quality Audits
- Process Analysis

GOAL

- Change requests
- Project Management Plan, Project
- Documents, and Organizational
- Process Assets Updates

01 Plan Quality Management

02 Perform Quality Assurance

03 Control Quality

Control Quality

Monitoring and recording results of executing the quality activities to assess performance and recommend necessary changes.
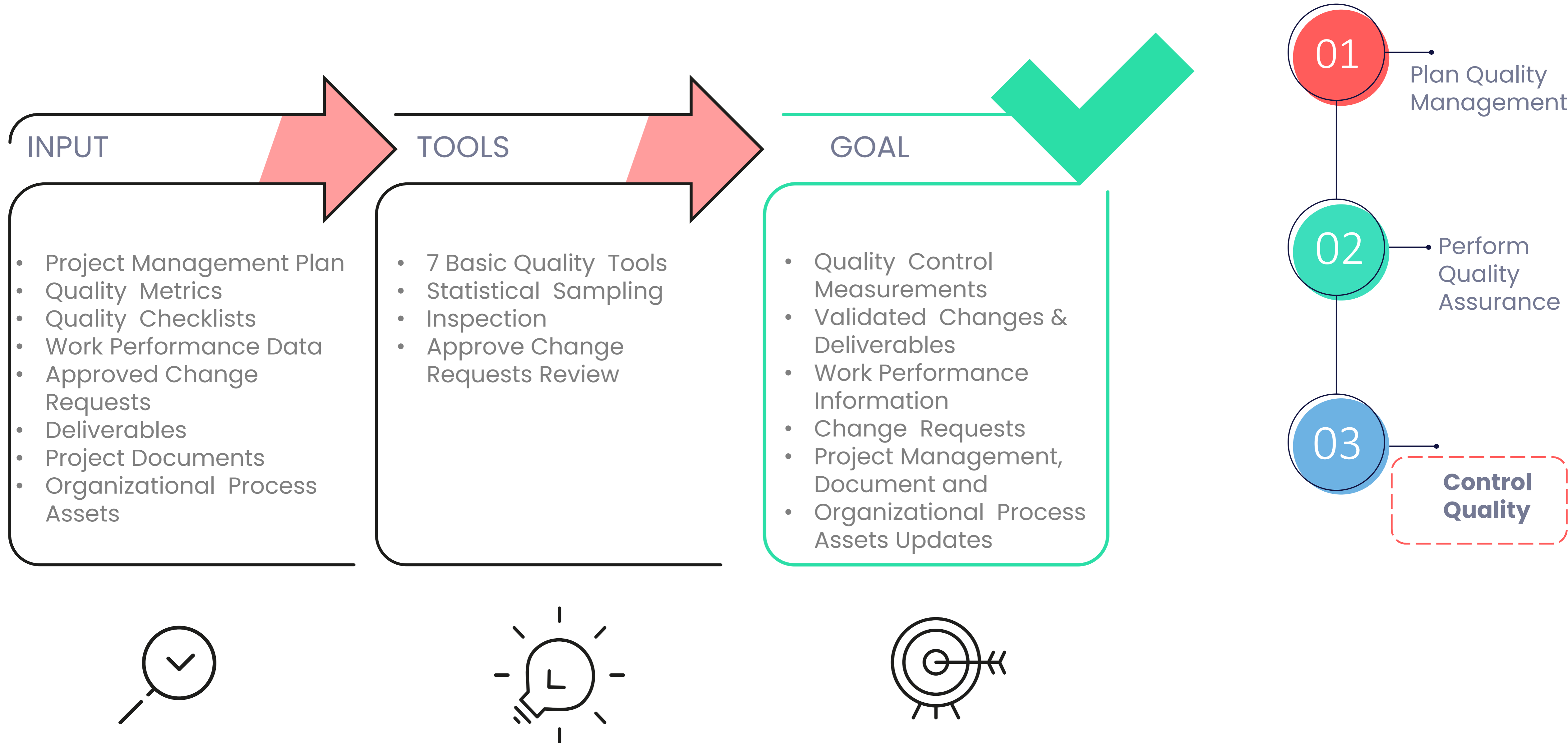
Control Quality

❑ Quality control involves operational techniques meant to ensure quality standards.

❑ This includes identifying, analyzing, and correcting problems.

❑ While quality assurance occurs before a problem is identified, quality control is reactionary. It occurs after a problem has been identified and suggests methods of improvement.

❑ It measures specific project outputs and determines compliance with applicable standards. It also identifies project risk factors, their mitigation, and ways to prevent and eliminate unsatisfactory performance.

❑ Quality control can also ensure the project is on budget and on schedule. You can monitor project outputs through peer reviews and testing.

❑ By catching any deliverables failing to meet the agreed standards throughout, you can simply adjust direction rather than having to entirely redo certain aspects.

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Control Quality

INPUT

- Project Management Plan
- Quality Metrics
- Quality Checklists
- Work Performance Data
- Approved Change Requests
- Deliverables
- Project Documents
- Organizational Process Assets

TOOLS

- 7 Basic Quality Tools
- Statistical Sampling
- Inspection
- Approve Change Requests Review

GOAL

- Quality Control Measurements
- Validated Changes & Deliverables
- Work Performance Information
- Change Requests
- Project Management, Document and
- Organizational Process Assets Updates

01 Plan Quality Management

02 Perform Quality Assurance

03 Control Quality

Benefits of Project Quality Management

❑ **Quality products.** Ensuring you and the project team check the quality of the project means the product will go through multiple development processes. This will help to deliver a final product that meets customer expectations.

❑ **Customer satisfaction.** Tackling problems in real-time and communicating with the customer will ensure they're up to date and aware of any issues. Incremental customer feedback can also help you to deliver a better final product.

❑ **Increased productivity.** With a project quality management system everyone knows deadlines and what is needed in advance. Having set deadlines, meetings, and reports can influence the project team to hit targets early to keep the project on track.

❑ **Financial gains.** Projects can run over budget if good quality management is absent. By having the three processes in place — planning, assurance, and control — you can tackle problems before they cut into your budget.

❑ **Removes silos.** Boost collaboration between teams with project quality management tools. Being able to easily see where each team is up to and using meetings to discuss feedback between departments can remove departmental silos.

Project Quality Management includes the processes and activities of the performing organization that determine:

Quality Policies

Objectives

Responsibilities

Quality management tools.

- Affinity diagrams
- Process decision program charts.
- Interrelationship diagrams.
- Prioritization matrices.
- Network diagrams.
  - Arrow diagram
  - Precedence diagram

- Matrix diagrams
  - L-shaped matrix
  - T-shaped matrix
  - Y-shaped matrix
  - C-shaped matrix
  - X-shaped matrix

Quality Management Software

Project quality management is multifaceted.
Team must:
• Clearly understand the quality expectations
• Determine how you will measure KPI
• Implement any necessary changes

The ideal work management platform allows you to track these aspects in one easy-to-use place.

Tools streamline review and approval processes to ensure quality and avoid costly mistakes.

• High Efficient and time effective
• Tracking down approvals and
• Aggregate feedback in one centralized hub
• Stakeholders to access in real-time.
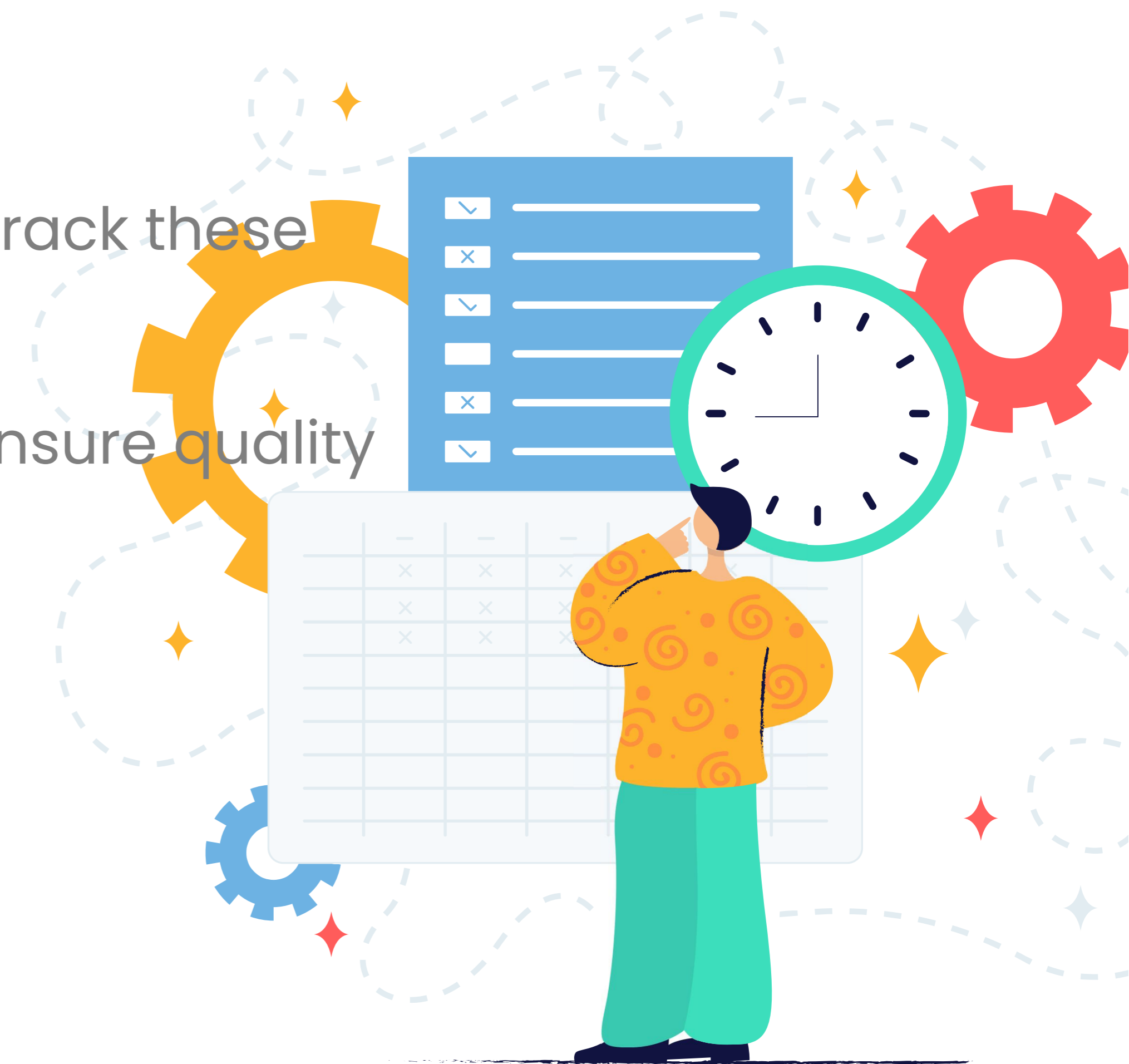
Who is responsible for project quality?

❑ **Project Manager**

❑ the project manager has overall responsibility for the quality management process.

❑ Some projects may also have specific roles for a quality assurance person or quality experts.

What is the role of quality department?

The purpose of a quality department is to **ensure profit margins by reducing inefficiencies, operations errors and product defects**. In addition, the purpose also must include proactively improving capability and capacity of operations through new methods, tools or skills.

Quality Manager responsibilities include:

❑ Understanding customer needs and requirements to develop effective quality control processes.

❑ Devising and reviewing specifications for products or processes.

❑ Setting requirements for raw material or intermediate products for suppliers and monitoring their compliance.

Quality Management Process Overall

Plan Quality Management

The process of identifying quality requirements and/or standards for the project and product, and documenting how the project will demonstrate compliance.

Perform Quality Assurance

The process of auditing the quality requirements and the results from quality control measurements to ensure appropriate quality standards and operational definitions are used.

Control Quality

The process of monitoring and recording results of executing the quality activities to assess performance and recommend necessary changes.

SUMMARY

Benchmarking
Comparing previous similar project results to the current project results to provide a standard to measure performance
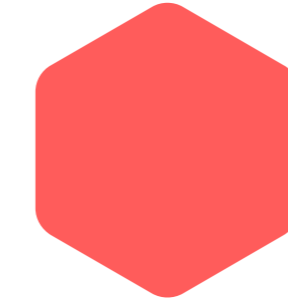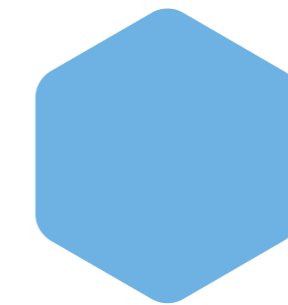
Quality Cost
Cost associated with maintaining the same level of quality and preventing shortcomings
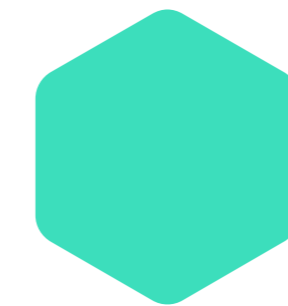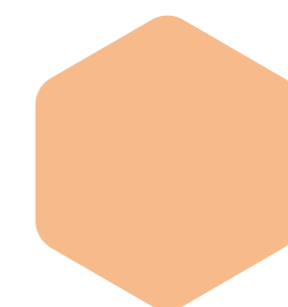
Cost of Quality
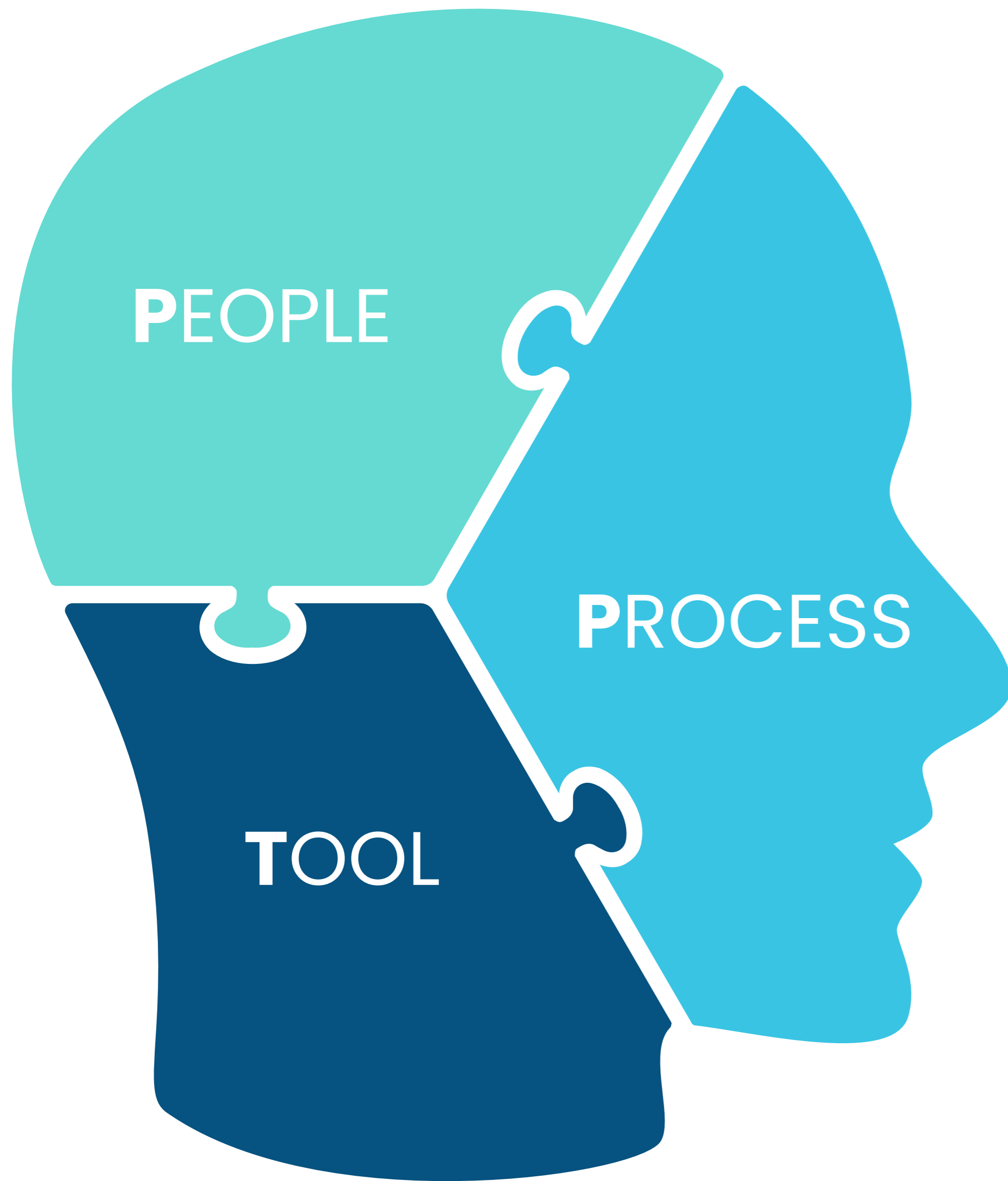Total cost of all efforts related to quality

Quality Metrics
Is an operational definition that describes what is being measured and how it will be measured by the Quality Control process

Quality Checklist
A structured tool, usually component specific; used to verify that a set of required steps has been performed

People

People are the primary resource on every project, and a well-managed team can greatly increase the chances for success.

Process

Project managers and team members should have a methodology and plan that outlines their approach to complete the scope of work.

Tool

Project management tools centralize all data and allow users to track progress, assign tasks, and give feedback easily.