

## DESCRIPTION

Errors and nonconformances can occur in any system or process. Often, they are process related rather than individual performance. A systemic approach to problem solving must be performed to identify, investigate, eliminate, and follow-up on the problem.

A root cause analysis might be required based on the error that has occurred. The goal of the root cause analysis is to identify the true cause(s) of the error.

Both short term and long-term corrective actions can be taken once the root cause has been identified. Short-term corrective action fixes the problem temporally while long-term corrective action(s) permanently fix the problem.

Once corrective and preventive actions are implemented, organizations should have a system to monitor and evaluate the effectiveness of those actions.

The seven classic quality tools can be used to identify the errors, to perform root cause analysis and identify true cause(s), and for post implementation monitoring of the effectiveness of corrective action(s) taken. This toolbox will contain descriptions, strengths and weaknesses, and examples of the application for each of these tools.

The seven classic quality tools are:

- Check Sheet
- Histogram
- Fishbone (Cause-and-Effect) Diagram
- Control Chart
- Pareto Chart
- Flowchart
- 5 Whys

## DEFINITIONS

- **Corrective Action:** An activity performed to eliminate the cause of a nonconformance or other undesirable situation in order to prevent recurrence.
- **Nonconformance:** Failure to meet requirements.
- **Normalization:** The organization of data to appear similar among different datasets and taking into consideration the number of opportunities.
- **Preventive Action:** An action taken to reduce the potential for nonconformances or other undesirable situations.
- **Root Cause Analysis:** A collective term that describes a wide range of approaches, tools, and techniques used to uncover cause of problems.