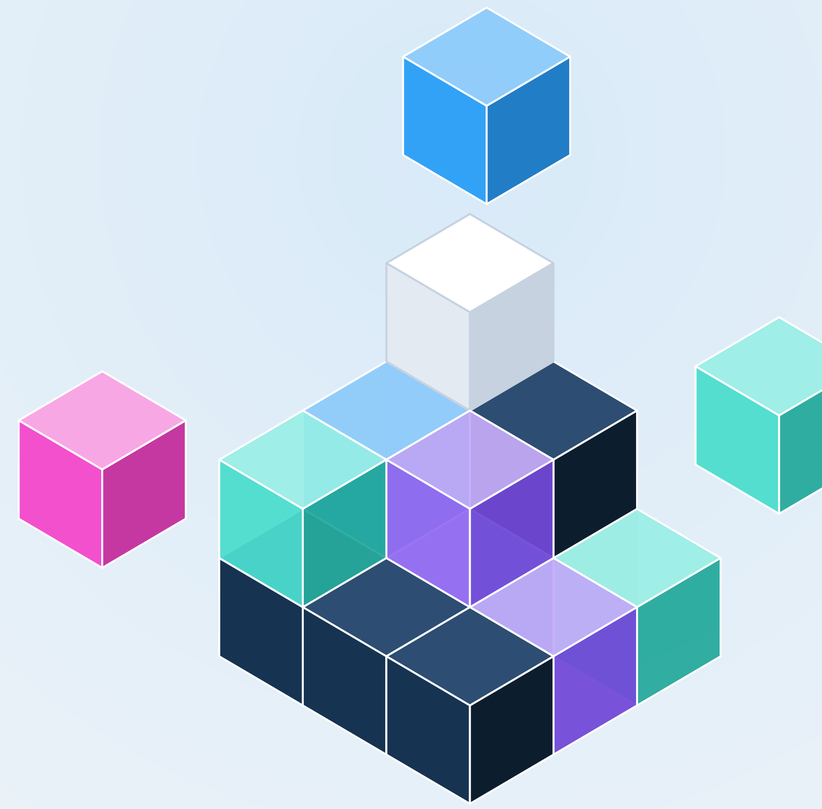
QUALITY MANAGEMENT

The Seven Basic Quality Tools



The seven basic quality tools are simple graphical methods that let any team collect, analyze and monitor data to solve most everyday quality problems.

01 THE CORE MODEL

SEVEN TOOLS · ONE PROBLEM-SOLVING KIT

01 COLLECT
Check sheet
Count events where they happen, by type and time.

02 COLLECT
Stratification
Split data by machine, shift or supplier to reveal patterns.

03 ANALYZE
Histogram
Shows the shape and spread of a measured variable.

04 ANALYZE
Pareto chart
Ranks causes so the vital few stand out.

05 ANALYZE
Fishbone
Structures possible causes of one effect by category.

06 ANALYZE
Scatter diagram
Tests whether two variables move together.

07 MONITOR
Control chart
Separates common from special cause variation over time.

Collect
Check sheets and stratification make data trustworthy and useful.

Analyze
Histogram, Pareto, fishbone and scatter show where to look.

Monitor
Control charts show whether a change really worked and holds.

02 USING THE KIT

Simple tools used well solve most everyday quality problems.

FANCY ANALYSIS — SIMPLE TOOLS

JUMPING TO ADVANCED METHODS

- − Data collected without a clear question
- − Statistics nobody on the line can read
- − Slow answers to simple problems

BASIC TOOLS IN SEQUENCE

- + Check sheet gives clean, relevant data
- + Pareto picks the problem to attack
- + Control chart confirms the fix holds

03 WORKED EXAMPLE

LEAKING HOSE FITTINGS · TOOLS USED IN SEQUENCE

CHECK SHEET
Leaks by station
one week of counts

→

PARETO
Crimp station 2
largest share of leaks

→

FISHBONE
Worn crimp die
top suspected cause

→

CONTROL CHART
Stable after fix
monitored for weeks

04 MANAGEMENT TAKEAWAYS

01
Start with a clear question
Decide what you want to know before collecting any data.

02
Stratify early
Splitting by shift, machine or supplier often points straight to the cause.

03
Teach on real problems
People learn the tools fastest on issues from their own area.

05 COMMON MISTAKE

LIMITATION
Data without stratification
Mixed data from many sources hides the pattern. Record machine, shift and material from the start.