

Root-Cause Tool Selection Guide

Choose a quality tool by the question the investigation needs to answer.

Question	Use	Output
What might be causing the problem?	Fishbone diagram	Organized cause hypotheses
Which measured categories contribute most?	Pareto chart	Ranked categories and cumulative contribution
Is process variation stable over time?	Control chart	Center line, limits, and signal patterns

Suggested sequence

- ☐ Define the problem operationally and verify measurement quality.
- ☐ Use time-ordered data to examine stability and changes.
- ☐ Create mutually exclusive categories and prioritize measured contributors.
- ☐ Develop cause hypotheses for the priority problem.
- ☐ Test the leading hypotheses with process evidence.
- ☐ Monitor the process after change using the same operational definition.

Avoid these errors

- ☐ Do not treat brainstormed causes as proven causes.
- ☐ Do not treat the most frequent category as automatically the most harmful.
- ☐ Do not confuse control limits with specification limits.

Use this resource with the related DataStatPro guide. Adapt every decision to the approved protocol, data structure, and destination requirements.