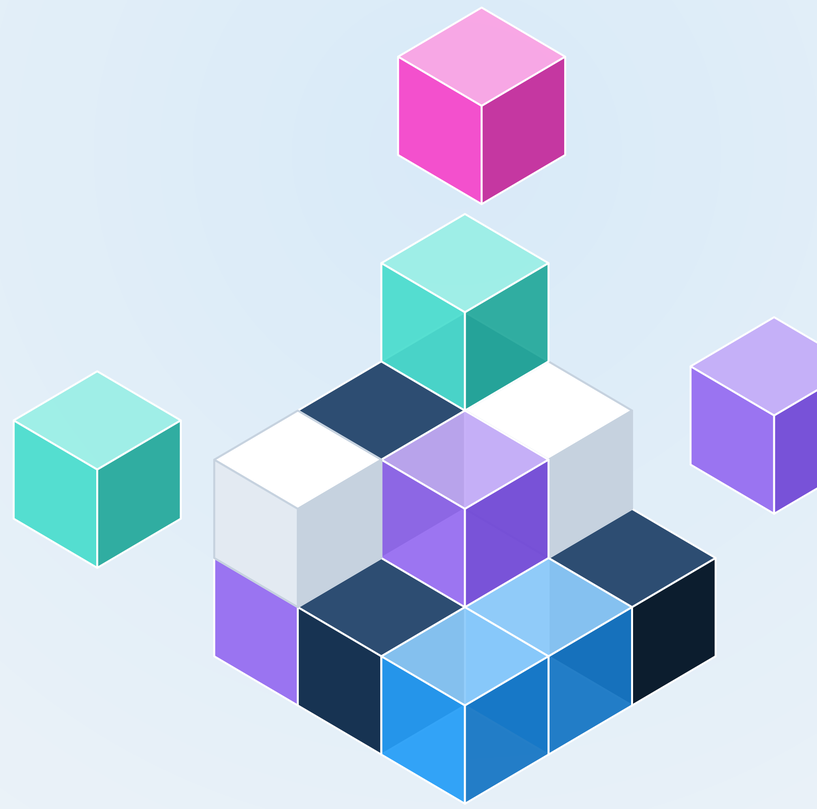
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PROCESS IMPROVEMENT

The 5 Whys vs Fishbone vs FMEA



5 Whys, fishbone and FMEA are three analysis methods for different situations. Choosing the right one depends on whether the problem has happened and how many causes are possible.

01 THE CORE MODEL

DECISION TREE · MATCH THE METHOD TO THE PROBLEM

What kind of problem are you facing?
Has it happened, and how complex is it?

HAPPENED, ONE CHAIN	HAPPENED, MANY CAUSES	NOT YET HAPPENED
5 Whys	**Fishbone**	**FMEA**
Trace one causal path	Explore causes by category	Prevent future failures
Machine stopped	Unclear variation	New product or process
Repeat minor defect	Team brainstorming	Major process change

5 Whys

Reactive and fast, for a problem with a likely single causal chain.

Fishbone

Reactive and broad, for an effect with many possible causes.

FMEA

Proactive and systematic, for risks before they occur.

02 COMBINING METHODS

The methods complement each other; complex problems often need two.

ONE TOOL — COMBINED

ONE TOOL FOR EVERYTHING

- 5 Whys on complex, multi-cause problems
- Fishbone without testing causes
- FMEA written after failures occur

METHODS COMBINED

+ Fishbone to list, data to verify
+ 5 Whys on the confirmed cause
+ FMEA updated with what was learned

03 WORKED EXAMPLE

RECURRING SEAL LEAKS ON A NEW PUMP · USING ALL THREE

FISHBONE
9 candidates
across 6M categories

→

DATA
Groove depth
confirmed by measurement

→

5 WHYS
Tool offset drift
no offset check in place

→

FMEA
Updated
for all similar pumps

04 MANAGEMENT TAKEAWAYS

01
Ask: has it happened yet?
If not, use FMEA; if yes, choose a reactive method.

02
Gauge the complexity
One likely chain suits 5 Whys; many candidates suit a fishbone.

03
Close with prevention
Feed findings back into FMEA and standards.

05 COMMON MISTAKE

LIMITATION
Picking the tool you know best
Habit often drives the choice. A mismatched method misses causes or wastes time.