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Problem Solving Methods

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Examples of Problem Solving Methods

- **Root cause analysis:** This method is used to identify the underlying causes of a problem. It involves asking “why” questions to identify the root cause(s) of the problem, and then addressing those causes directly.
- **SWOT analysis:** This method is used to analyze the strengths, weaknesses, opportunities, and threats related to a problem or situation. It involves identifying internal and external factors that may affect the problem, and then developing a strategy based on that analysis.
- **Fishbone diagram:** This method is also known as an Ishikawa diagram or cause-and-effect diagram. It is used to identify the causes of a problem by mapping out the various factors that may contribute to it.
- **Design thinking:** This problem-solving method is focused on understanding the user's needs and developing solutions that meet those needs. It involves empathizing with the user, defining the problem, ideating potential solutions, prototyping and testing those solutions, and then implementing the best solution.
- **Six Sigma:** This method is used to improve the quality and efficiency of a process by identifying and eliminating defects. It involves collecting and analyzing data, identifying the root causes of defects, and implementing improvements to prevent future defects.
- **PDCA cycle:** This method is also known as the Deming cycle or Shewhart cycle. It is a continuous improvement cycle that involves planning, doing, checking, and acting. It is used to identify areas for improvement and implement changes in a systematic and structured way.
- **TRIZ:** This method is a systematic approach to problem-solving that is focused on finding innovative solutions to complex problems. It involves identifying contradictions and using a set of tools and principles to resolve those contradictions.
- **Pareto analysis:** This method is used to prioritize problems or issues by identifying the most important or impactful ones. It involves analyzing data to identify the root causes of problems, and then focusing on the causes that have the biggest impact.
- **Mind mapping:** This method is a visual technique that is used to generate and organize ideas. It involves creating a map or diagram of related ideas, concepts, and information to help generate new ideas and identify potential solutions.
- **Lean thinking:** This method is focused on eliminating waste and increasing efficiency in processes. It involves identifying and eliminating activities that do not add value to the process, and continuously improving the process to reduce waste and increase productivity.
- **A3 problem-solving:** This method is a structured approach to problem-solving that involves using an A3-size document to guide the process. It involves defining the problem, analyzing the situation, developing solutions, implementing those solutions, and evaluating the results.
- **Agile problem-solving:** This method is used in software development and project management to quickly and iteratively solve problems. It involves breaking down problems into smaller tasks and using feedback loops to continuously improve the solution.
- **Kepner-Tregoe problem analysis:** This method is a systematic approach to problem-solving that involves identifying the problem, analyzing it to understand its nature, generating potential

solutions, evaluating those solutions, and then implementing the best solution.

- **DMAIC:** This method is a problem-solving methodology used in Six Sigma projects. It involves defining the problem, measuring the current performance, analyzing the data to identify root causes, improving the process, and then controlling the process to sustain the improvements.
- **The 5 Whys:** This method is a simple but effective way to identify the root cause of a problem. It involves asking “why” repeatedly until the underlying cause of the problem is identified.
- **Decision matrix analysis:** This method is used to evaluate multiple options and make a decision based on multiple criteria. It involves creating a matrix that lists the options and the criteria, and then scoring each option based on how well it meets each criterion.

- 15% Solutions
- [5 Why](#)
- 5S tools to reveal problems
- 7QC tools
- 8D Report
- [A3](#) problem solving
- [A3](#) Report
- Agreement-Certainty Matrix
- Brainstorming
- Charting software
- Concept maps
- Corrective Action
- Corrective Action Preventive Action (CAPA)
- Design Sprint 2.0
- Discovery & Action Dialogue
- DMAIC tools
- Dotmocracy
- Eight Disciplines of Problem Solving (8D)
- Eight Disciplines Problem Solving
- Experimental Action Plan
- Failure Mode and Effects Analysis (FMEA)
- [Fishbone](#) Analysis/Diagram
- Flip It
- Flowcharts
- Four-Step Sketch
- GROW model
- Hansei Lean Thinking
- Hive mind
- How to Solve It
- How-Now-Wow matrix
- Idea maps
- Impact Effort Matrix
- Improved Solutions
- Is Is Not Analysis
- Journalists
- Kaizen tools
- Lateral thinking
- Layered process audit software
- Lean Kata
- LEGO Challenge
- Lightning Decision Jam

- Mental maps
- MindManager
- Mindspin
- OODA loop (observe, orient, decide, and act)
- Open Space Technology
- Pareto Chart
- PDCA (plan-do-check-act)
- PDCA template
- Plan Do Check Act (PDCA)
- Problem Definition Process
- Problem Tree
- Root cause analysis
- RPR problem diagnosis (rapid problem resolution)
- Scatter Diagram
- [Six Thinking Hats](#)
- Speed Boat
- SQUID
- Strategy maps
- SWOT Analysis
- System dynamics
- The Creativity Dice
- The Journalistic Six
- TRIZ (in Russian: Teoriya Resheniya Izobretatelskikh Zadach, “theory of solving inventor's problems”)
- What, So What, Now What?
- World Cafe

Related:

- [5 Why](#) problem, method, rca
- [A3](#) problem, method, rca
- [Collective problem solving](#) problem, strategy
- [Design Thinking](#) problem, dx, dt
- [Fishbone](#) problem, method, rca
- [Root Cause Analysis \(RCA\)](#) problem, strategy
- [Six Thinking Hats](#) problem, method

External links:

- https://en.wikipedia.org/wiki/Problem_solving#Problem-solving_methods

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