Template

Root Cause Analysis Template

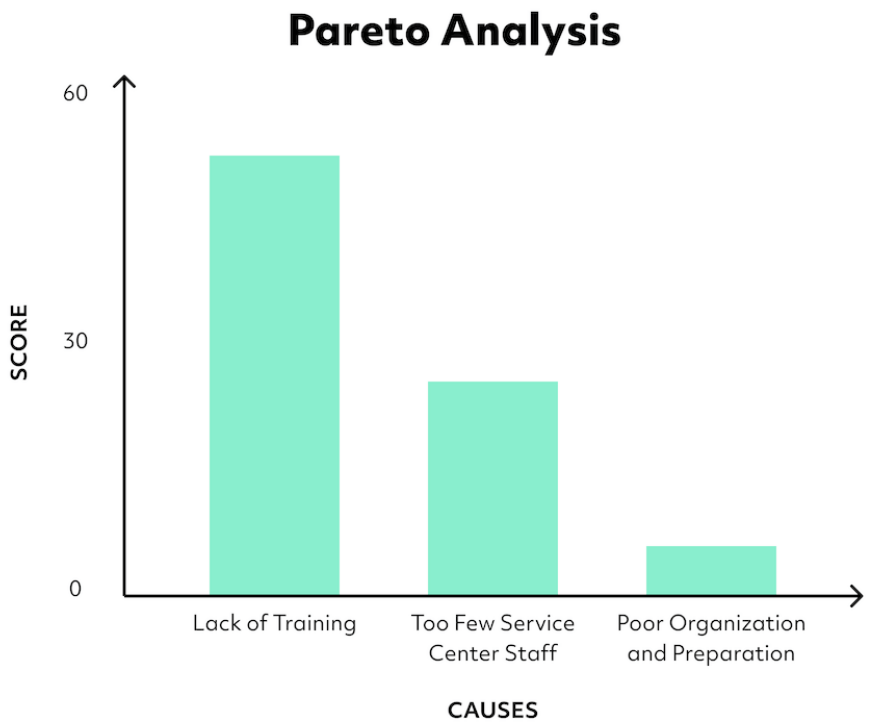
Use this template to manage a root cause analysis for any issue. Learn more about this template.

How to conduct root cause analysis?

Pareto chart

A Pareto chart is a bar graph combined with a line graph that groups the frequency distribution to show the relative significance of causes of failure. It's based on the Pareto Principle, which states that "80% of the effects come from 20% of the causes."

First, you identify the problems and their causes. Next, you score them by the number of times each occurs. A Pareto Chart makes it easy to see the most common issues at a glance so that you can prioritize improvements for maximum impact.



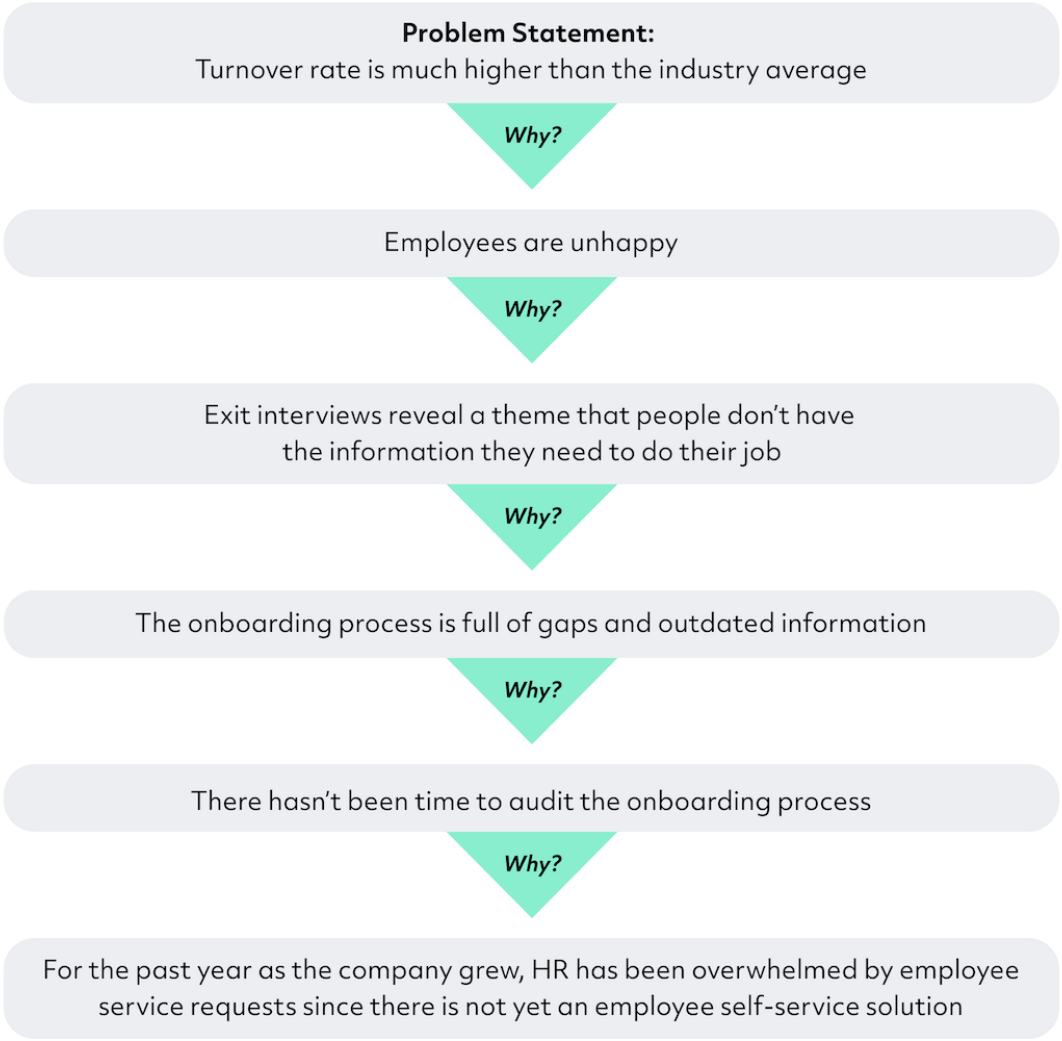
5 whys

The 5 whys is an investigative technique that uses a series of questions to drill down to the deeper causes of a problem. You ask *why* repeatedly until you identify the root; each answer to the question *why* becomes the basis of the next *why*. It's an excellent technique for solving rudimentary problems that don't require quantitative analytical methods.

For example

- *Problem statement: Our turnover rate is much higher than the industry average.*
- *Why? Employees are unhappy.*
- *Why? Exit interviews reveal a theme that people don't have the information they need to do their jobs.*
- *Why? The onboarding process is full of gaps and outdated information.*
- *Why? There hasn't been time to audit the onboarding process.*

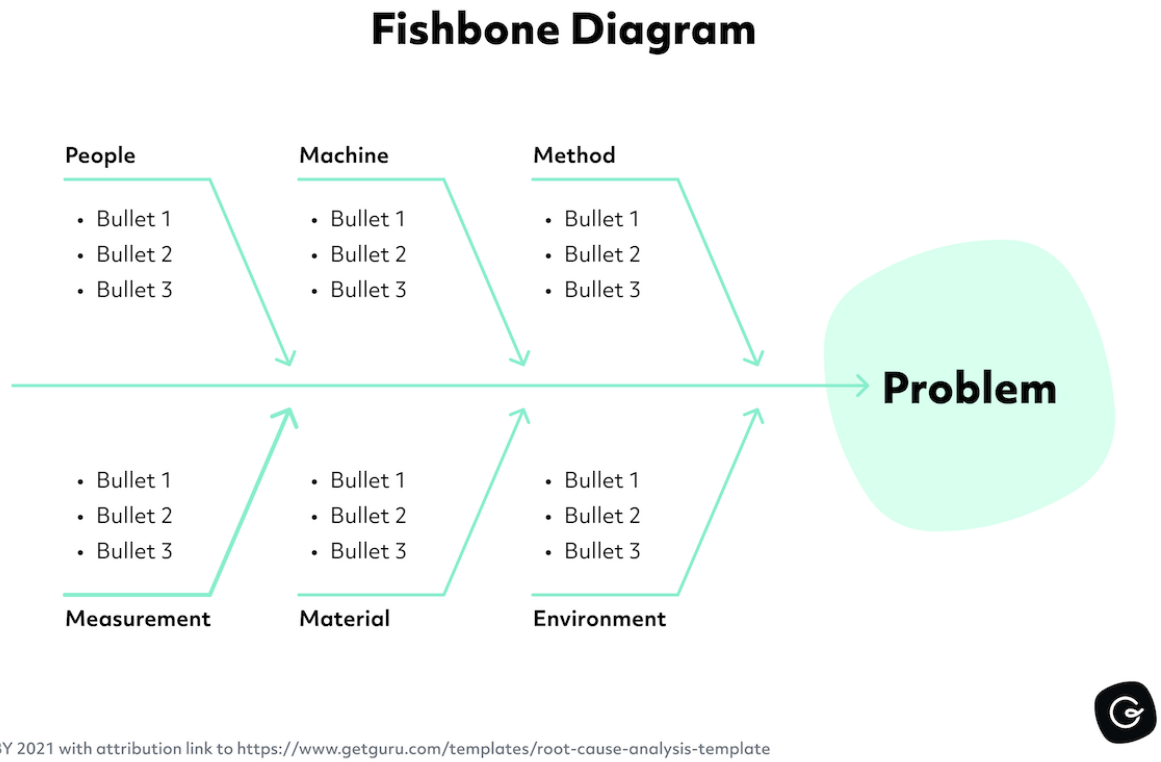
- *Why? As the company has grown over the past year, HR has been overwhelmed by employee service requests since we don't yet have an employee self-service solution.*



Fishbone diagram

The fishbone diagram is shaped like the skeleton of a fish. The fish head represents the problem, and each "bone" signifies a subcategory of potential causes for that problem.

Use a fishbone diagram to analyze complex problems when the root cause is unknown. A fishbone diagram is also often called an Ishikawa or cause and effect diagram. You group the potential problems into subcategories and link them back to the main problem you're investigating. It's an excellent method to eliminate unrelated factors and identify the likely root causes.



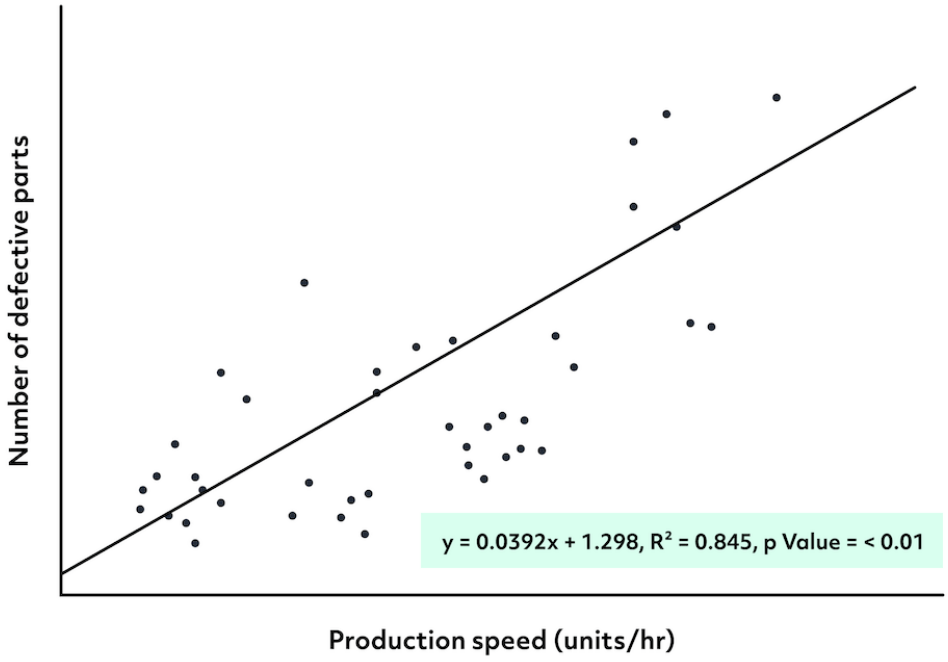
Scatter plot diagram

A scatter plot diagram uses pairs of data points to understand the link between two quantifiable variables.

Plot the suspected cause (independent variable) on the x-axis and the effect (dependent variable) on the y-axis. If the diagram shows a precise line or curve, then the two variables are correlated. Correlation does not necessarily point to a cause but can be used alongside other methods to help point to the underlying problem.

If the two variables aren't correlated, you can change the independent variable (x-axis) in search of other potential connections.

You will want to understand how likely it is that any correlation you uncover could have happened by chance. A statistical analysis tool can help you calculate the p-value of the correlation to help determine whether the relationship between these things is statistically significant. If it is, that means there is a high likelihood that the issue you've identified is, in fact, associated with the problem you want to solve.



Failure mode and effects analysis (FMEA)

FMEA is a method used during the product design lifecycle to identify potential problems and solve them.

The two components in FMEA are:

- Failure modes: Identifies all the ways that a problem could occur within a process
- Effects analysis: Evaluates the causes and consequences of each failure mode

FMEA chart outlines:

- Potential design flaws, causes, and consequences
- Current control measures to prevent each type of failure
- A Severity Occurrence and Detection (SOD) rating to calculate risk and determine the next steps

Six Sigma and DMAIC

Six Sigma is a toolkit for process improvement. It promises improved cycle speed while reducing defects to less than 3.4 per million units or events.

What is DMAIC?

DMAIC is a data-driven process for improving quality and is both an integral part of a Six Sigma initiative and a powerful standalone strategy.

Define and measure (DM) is the first step. The goal here is to understand the difference between expectations and results.

Analyze (A) is the second stage. It uses the data from the first steps to understand the cause-and-effect relationship to prevent the problem from recurring.

Implement and control (IM) is the final stage. These steps focus on the solution to the potential problems and include monitoring implementation to prevent problems from recurring.

Tips for performing a successful root cause analysis

✅Work with a team

It's easier to analyze processes and brainstorm solutions when you work with a team. In addition, working with a team acts as a check and balance system since team members can review each other's data.

To get the best out of your team, use knowledge base software to keep track of incident data so you have a historical record of your RCA-related information.

✅Collect the right information

Your RCA is ineffective if you can't count on the data available. Information about an incident must be accurate, consistent, and comprehensive.

Use RSA software with simple entry screens and intuitive form design to collect the correct information. It should also be anonymous, so employees feel safe when providing information.

✅Look beyond the incident report

The incident report is the starting point when you're identifying which events to investigate. However, it's essential to dig deeper to understand the chain of events that led to the incident. Stakeholders to invite to the discussion include:

- Employees who are familiar with systems and processes
- Employees who are directly involved in the event
- Trained RCA investigator or facilitator to lead the discussion

✅Ask questions

When using the 5 whys technique, work your way backward to the sequence of contributing events to understand why each incident happened. Then, keep asking *why* until you can't break the answer any further.

Next, narrow your list to the most likely culprits. You'll map that into a cause and effect diagram that shows the cause of the problem. When you've reached the root cause, answer the following questions to check your work:

- Would the event have occurred without the identified root cause?
- Will the problem reoccur if you eliminate the cause?

Ideally, you should answer “no” to both questions. Otherwise, you need to ask more questions to identify the root cause.

✅Focus on where you’ll have the most impact

If you don’t have the resources to solve every claim or incident, focus on solving issues that will have the most impact.

A Pareto chart tells you the top issues and helps you focus on that specific cause. Create an action plan around the significant issues. The action plan should include:

- Corrective measures
- When should it happen?
- Who is responsible for taking action?
- The metrics of success

After creating and implementing your action plan, wait a few months to compare incident data. If the RCA is successful, you should notice a significant downward trend.

✅Leverage technology

Some organizations struggle to identify problems because processes, workflows, and tech stacks make it difficult for employees to document events. An RCA software supports a successful root cause analysis by:

- Capturing data
- Analyzing data to identify the most recurring incidents
- Tracking corrective action implementation and progress