5 WHYS

GETTING TO THE ROOT CAUSES

What is it?

The 5 Whys technique is most effective when the answers come from people who have hands-on experience of the process being considered. It is simple: when a problem occurs, you drill down to its root cause by asking "why?" multiple times. Then, when an action or set of actions that could prevent the problem from arising again (called counter-measures) becomes apparent, you follow it through to prevent the issue from recurring.

When would you use it?

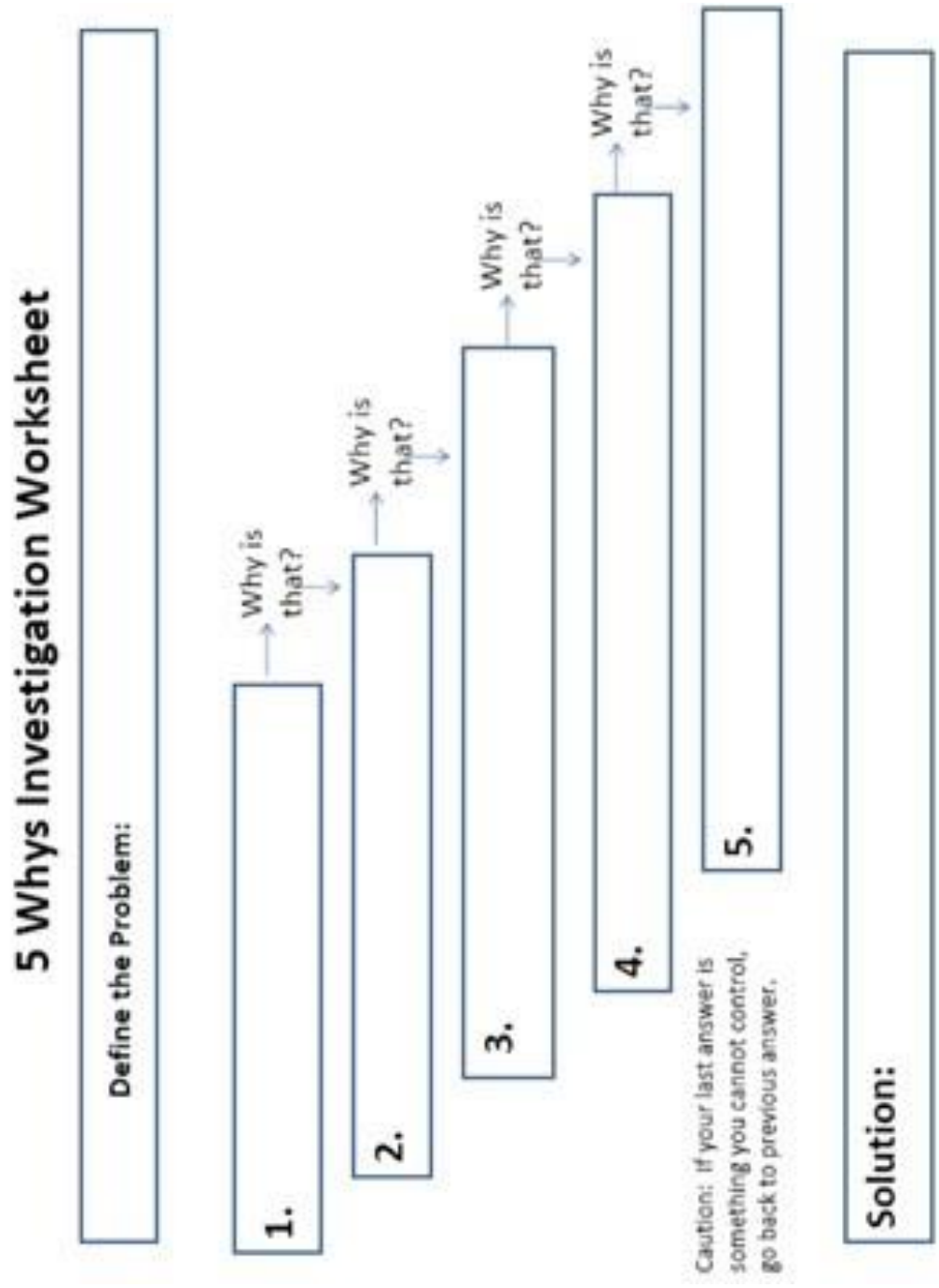
You can use 5 Whys for troubleshooting, problem solving, and generating ideas for improvement. 5 Whys is most effective when used to get to the root of simple or moderately difficult problems.

5 Whys can lead you to pursue a single cause or source of problem when there could be multiple causes, but the simplicity of the tool directs you quickly to the roots of a problem. Use 5 Whys at the beginning of an improvement process – before you jump into use of more in-depth tools and before you come up with ideas for a solution.

How do you use it?

Start with a problem and ask "why" it is occurring. Make sure that your answer is grounded in fact, then ask "why" again. Continue the process until you reach the problem's root cause, and you can identify a counter-measure that prevents it from recurring. See the back for a worksheet.

1. Pull together a team.
2. Define the problem.
3. Ask: why is the problem occurring? Search for answers that are grounded in fact: they must be accounts of things that have *actually* happened – not guesses at what might have happened. Record answers as simple statements.
4. Ask: why? additional times. Record responses.
5. Stop when it makes sense. You'll have revealed the nature of a root cause when no more useful responses come from asking "why." An appropriate counter-measure or process change should then become clear.
6. Address the root cause with a counter-measure action or set of actions.
7. Monitor the impact of the actions you take.
8. Repeat if the problem continues to get at another root cause.


5 Whys Investigation Worksheet
Define the Problem:
1.
Why is that?
2.
Why is that?
3.
Why is that?
4.
Why is that?
5.
Caution: If your last answer is something you cannot control, go back to previous answer.
Solution:

FISHBONE/ISHIKAWA DIAGRAM

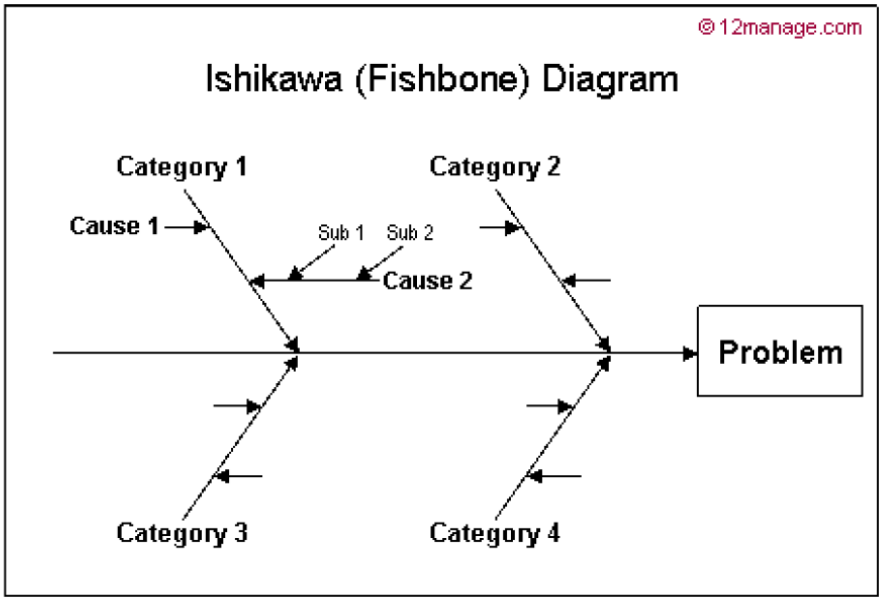
GETTING TO THE ROOT CAUSES

What is it?

Fishbone Diagrams (also known as Ishikawa Diagrams) are used in process improvement to identify all of the contributing root causes likely to be causing a problem. The Fishbone chart is an initial step in the screening process. Because people by nature often like to get right to determining what to do about a problem, this can help bring out a more thorough exploration of the issues behind the problem – which will lead to a more robust solution.

When would you use it?

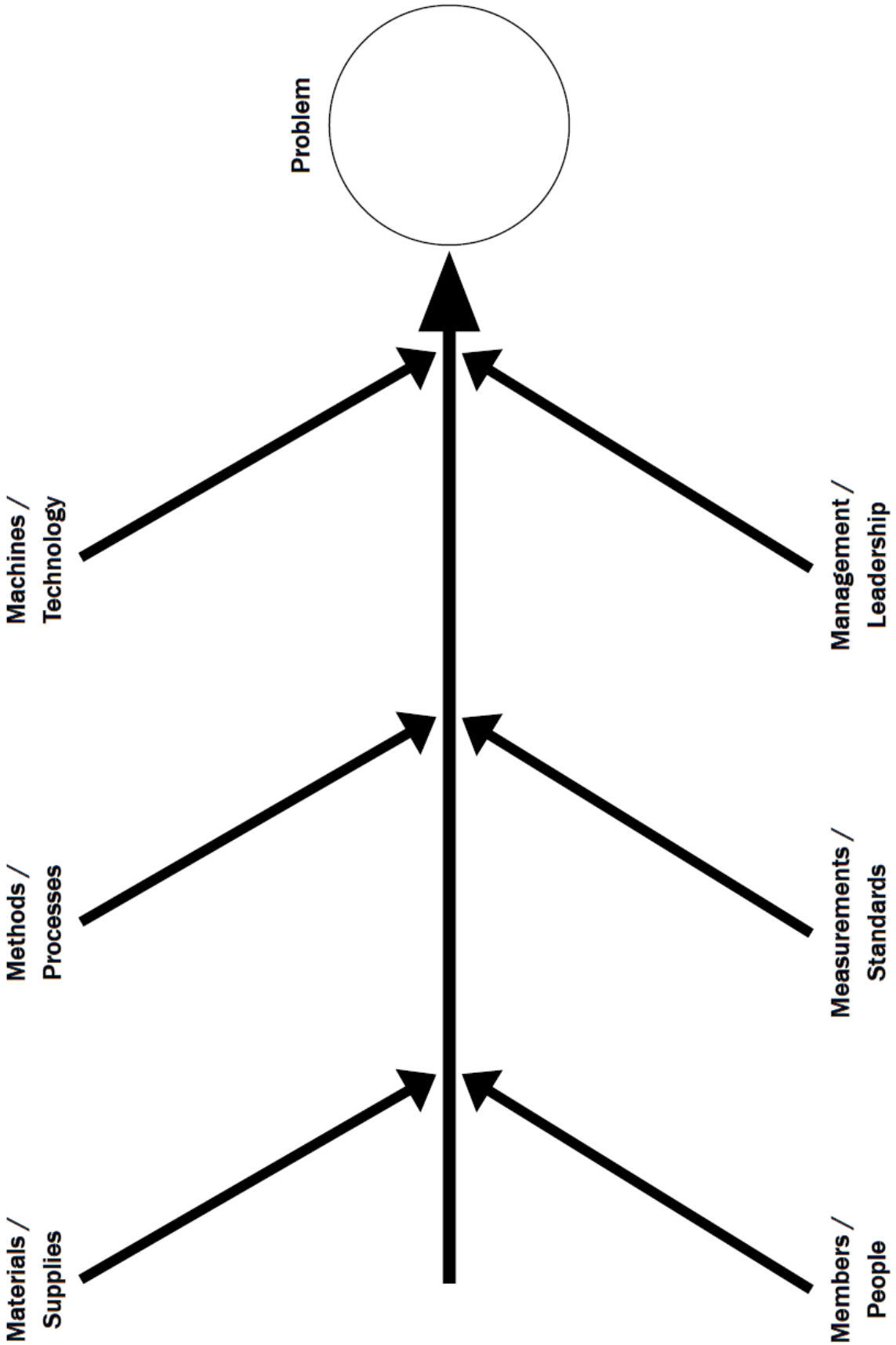
The Fishbone Diagram will help to visually display the many potential causes for a specific problem or effect. It is particularly useful in a group setting and for situations in which little quantitative data is available for analysis. After identifying potential root cause(s), further testing will be necessary to confirm the true root cause(s).



How do you use it?

Follow the simple instructions below.

1. **State the problem.** Place the problem statement at the "head of the fish." Good problem statements are very specific to keep the team focused. It is helpful to state it in the form of a question – *why* are we experiencing the problem?
2. **Draw the rest of the fishbone diagram.** It consists of one line drawn across the page attached to the problem statement, and several lines coming out from the main line.
3. **Brainstorm Possible Causes and Categorize.** Group potential causes into major categories.
4. **Complete the diagram.** List out all the potential causes that contribute to each category.
5. **Ask why?** For each cause identified, ask "why does that happen?" and attach that information as another line off the category branch. This will help get you to the root causes of a problem.
6. Consider using a Pareto Chart to help you identify which are the biggest contributing causes.


Problem
Machines / Technology
Management / Leadership
Methods / Processes
Measurements / Standards
Materials / Supplies
Members / People

PERFORMANCE MEASURE EXERCISE

IDENTIFYING WHAT MEASURES MATTER TO REVIEW OVER TIME

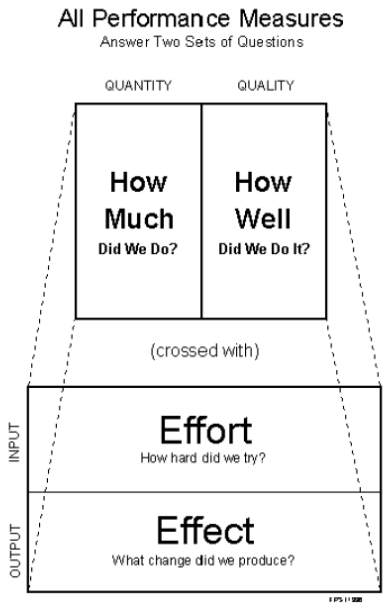
What is it?

The purpose of measuring performance is to improve performance. The Performance Measure Exercise is a common sense tool meant to help teams of staff in a unit, program, or organization identify what is meaningful and useful to measure and review about their performance over time.

When would you use it?

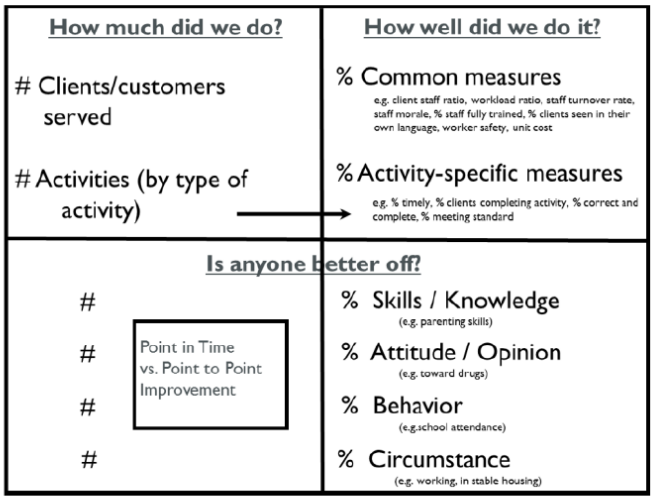
Units, programs, and organizations can use the Performance Measure Exercise at any point in time to assess what kinds of data they are or should be collecting to have an understanding of *how much we do, how well we are doing it, and if anyone is better off* (if we are making a difference).

If you manage a program or strategy, or are planning to implement a program or strategy, you can use the Performance Measure Exercise to identify by what performance measures it will be most meaningful to understand the quality and impact of the work. You can also use the Performance Measure Exercise when you are considering how to communicate about your work to stakeholders or funders, or in setting up contractual or grant agreements with providers of services for which you want to monitor performance over time.



How do you use it?

There are three types of performance measures: measures of quantity, quality, and impact. You can think about these as the result of crossing a matrix of quantity and quality, inputs and outputs (see above) which creates a grid like the one to the right.



Using the grid and following the simple instructions below and on the flip side of this page, a team of staff can work together to identify what data is or could be collected that answers these questions, and which of them matter most to review and improve over time.

Using the Performance Measure Grid:

1. Identify what unit, strategy, program, or organization you are seeking to measure. What is the purpose of the work?
2. Identify who the clients, customers, or beneficiaries are of the work that you do.

3. Start in the upper left quadrant. Think about the activities you provide. Write as many of these down as you can in a way you could measure them (e.g., "training" becomes "# of trainings").
4. Move into the upper right quadrant. Think about how you would know the quality of the activities you are providing and write these in a way you could measure them (e.g., "% of staff attending trainings). Also think about the quality of the environment in which staff are working. Customer and client satisfaction often appear here.
5. Move down into the lower two quadrants. Think about how you would know if the people whom your work benefits are better off – if the work is making a difference. What are the ultimate outcomes for clients you are seeking to achieve by doing the work of your program? Write these in a way you could measure them (e.g., "rate of staff retention").
6. When you have completed the grid, cross out the ones for which you cannot currently collect any data. These make up your "Data Development Agenda." Focus where you can collect data now, and rate those measures by Communication Power, Proxy Power, and Data Power. See below.
7. Circle the 3-5 measures that rate the highest across the criteria. These are your Headline measures which are what you can commit to reviewing on a regular basis to look for opportunities to improve. All of the other measures are your Secondary measures, which may help you understand trends overtime in your Headline measures.

Organization, Program, Unit: _____

What do we do?

Who do we serve?

	Quantity	**Quality**
Effort	How Much?	How Well?
Effect	Better Off?	

Communication Power:
Does the measure communicate to a broad and diverse audience?

Proxy Power:
Does the measure say something of central importance about the desired result or outcome?

Data Power:
Do we have quality data that is timely, reliable, and consistent?

Performance Measure Candidates	**Power (High, Medium, or Low)** Comm.	Data	Proxy
	☐H☐M☐L	☐H☐M☐L	☐H☐M☐L
	☐H☐M☐L	☐H☐M☐L	☐H☐M☐L
	☐H☐M☐L	☐H☐M☐L	☐H☐M☐L
	☐H☐M☐L	☐H☐M☐L	☐H☐M☐L
	☐H☐M☐L	☐H☐M☐L	☐H☐M☐L
	☐H☐M☐L	☐H☐M☐L	☐H☐M☐L

PARETO CHART

TACKLE THE FEW SOURCES OF THE BIGGEST PROBLEMS

What is it?

The 80/20 rule says that 80% of problems are created by 20% of the sources.

A pareto chart combines a bar chart with a line graph to visually rank causes or problems and help you decide where to focus your efforts where you can have the biggest impact in solving a problem or improving. It helps you answer:

- What are the largest issues facing our team or business?
- What 20 percent of sources are causing 80 percent of the problems?
- Where should we focus our efforts to achieve the greatest improvements?

When would you use it?

You would use a pareto chart when you are attempting to:

- Break down a big need for improvement into smaller pieces
- Analyze the relative importance of different causes for problems
- Prioritize efforts around one cause of a complex problem to have the biggest impact

How do you use it?

A Pareto chart is a bar graph. The lengths of the bars represent frequency or cost (time or money), and are arranged with longest bars on the left and the shortest to the right. In this way the chart visually depicts which situations are more significant.

Steps to creating a Pareto Chart:

1. Decide what categories you will use to group items.
2. Decide what measurement is appropriate. Common measurements are frequency, quantity, cost and time.
3. Decide what period of time the Pareto chart will cover: One work cycle? One full day? A week?
4. Collect the data, recording the category each time. (Or assemble data that already exist.)
5. Subtotal the measurements for each category.
6. Determine the appropriate scale for the measurements you have collected. The maximum value will be the largest subtotal from step 5. (If you do steps 8 and 9, the maximum value will be the sum of all subtotals from step 5). Mark the scale on the left side of the chart.

7. Construct and label bars for each category. Place the tallest at the far left, then the next tallest to its right and so on. If there are many categories with small measurements, they can be grouped as "other."
8. Calculate the percentage for each category: the subtotal for that category divided by the total for all categories. Draw a right vertical axis and label it with percentages. Be sure the two scales match: For example, the left measurement that corresponds to one-half should be exactly opposite 50% on the right scale.
9. Calculate and draw cumulative sums: Add the subtotals for the first and second categories, and place a dot above the second bar indicating that sum. To that sum add the subtotal for the third category, and place a dot above the third bar for that new sum. Continue the process for all the bars. Connect the dots, starting at the top of the first bar. The last dot should reach 100 percent on the right scale.

	A	B	C
1	**Survey Options**	**Number of Occurences**	**Cumulative % of Occurences**
2	Too far away	24	55.5%
3	Not open late	7	71.9%
4	Not open early	6	85.9%
5	Too old material	4	95.3%
6	Staff unfriendly	2	100.0%
7	Total	43