



FISHBONE DIAGRAM

Rather like the 5 Whys technique, this tool is useful to help identify possible causes of a problem. By creating a visual representation of how different parts of a problem connect, however, it often allows for a more nuanced view. When done over a few sessions with a variety of people it allows in-depth consideration of even a complex problem with many causes, making it less likely that people will jump to a premature solution.

The design was proposed by Kaoru Ishikawa in the 1960s, one of the founding fathers of modern management. The tool is thus also occasionally known as an Ishikawa Diagram.

Benefits of using a Fishbone Diagram

- Both problem and solution are understood and owned by the wider team, since many have had input to the diagram.
- A Fishbone Diagram is a clear, visual representation of the connections between problems and related causes.
- Because the diagram is created during a team session, it can often spark ideas through brainstorming.
- It is easy and simple for those inside and outside of the team to understand.

Implementation

Prerequisites

- There needs to be a problem or symptom that has been concerning the team – perhaps something is causing large amounts of rework, or work is regularly late or only partially done.
- Gather the team connected to the problem and put aside time for a couple of sessions of about 30 minutes each. A break of a few days between sessions will help people remember other factors or concerns.

Drawing the Fishbone Diagram

1. On a large sheet of paper draw a long arrow across the middle and label it "Problem" – write here whatever is the key symptom causing trouble. This is the 'backbone' of the 'fish'.
2. Draw spurs coming off the 'backbone', one for every likely cause of the problem and add a label at the end.
3. Keep exploring the main causes, adding additional ideas and digging deeper - there may be several possible causes behind each problem.
4. Indicate each new cause as a labelled line connected to the main spurs. Don't worry about writing the same things multiple times. Capture all ideas in the diagram as people think of them.

Outcome

Function

Benefit

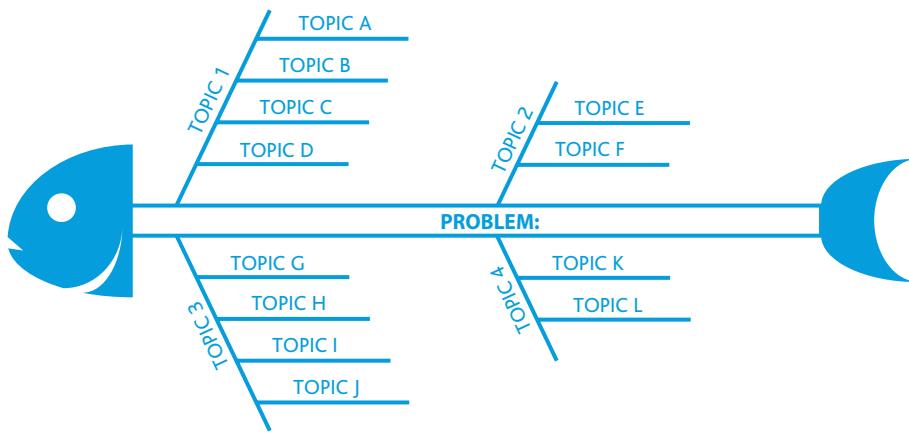
Who

Scaling Factors

Difficulty



5. Now highlight any causes that have appeared more than once, since these are likely to be significant. Circle the most significant causes.
6. Once the team have thoroughly discussed the causes and agreed on an accurate and complete picture, redraw the diagram. Now place the most important causes nearest the head of the fish, with the least worrying ones by the tail.
7. Create an action plan that begins by tackling the most important causes.



Potential pitfalls

- If people do not agree on the problem or symptom then it can be hard to have a constructive discussion and the session can be chaotic. Try to ensure this has been agreed beforehand.
- The diagram can usually only fit three levels of cause conveniently. If you need to dig deeper – and often this is a very important step – then you might want to take each branch separately and use the 5 Whys.
- Do not allow the idea of a diagram to lead you into insisting on anything too sparse or ordered. Lots and lots of causes and problems is a crucial first step in ensuring a creative brainstorm around all sides of the problem.

If you want to learn more, consider reading:
Introduction to Quality Control by Kaoru Ishikawa