

Lean Tool – Fishbone Diagram



Purpose

- Identification of possible causes for an effect or problem

Application

- Used to facilitate a brainstorming session and immediately sort ideas into useful categories

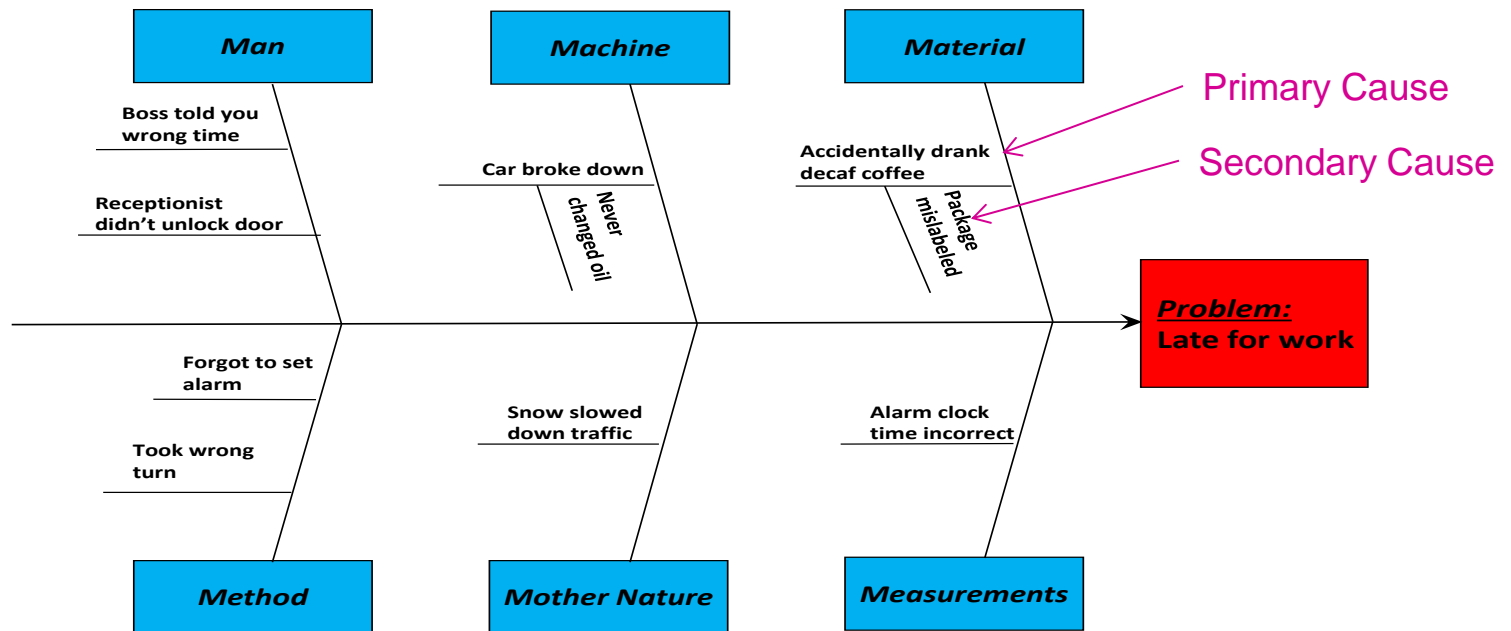
Methodology

1. Agree on a problem statement (effect). Write it in the center of the right side of a flipchart or whiteboard. Draw a box around it and draw a horizontal arrow running to it.
2. Brainstorm the major categories of causes of the problem. If this is difficult use generic headings:
 - Man (people)
 - Machine (equipment)
 - Material
 - Method
 - Mother Nature (environment)
 - Measurement
3. Write the categories of causes as branches from the main arrow.
4. Brainstorm all the possible causes of the problem. Ask: “Why does this happen?” As each idea is given, the facilitator writes it as a branch under the appropriate category. Causes can be written in several places if they relate to several categories.

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- Again ask “why does this happen?” about each cause. Write sub-causes branching off the main causes. Continue to ask “Why?” and generate deeper levels of causes (5-why analysis)
- When the group runs out of ideas, focus attention to categories on the chart where ideas are few



Hints:

- If many causes are found, PACE prioritization or Pareto Charts can be used to help determine what causes to focus improvement efforts on



Fishbone Diagram Exercise

Brian has been repeatedly late to work over the past few months. In this example, let's pretend we are Brian's boss trying to help him reduce the number of times he is late by identifying all of the potential causes and categorizing them by using a cause and effect diagram.

