

# Fishbone (Ishikawa) Diagram

## What is a Fishbone Diagram?

A Fishbone Diagram, also called an Ishikawa or Cause-and-Effect diagram, is a tool used to conduct root cause analysis (RCA) to determine what may be contributing to the observed problem. Other techniques used in RCA, like the 5-Whys, are helpful in determining a single root cause or pinpointing a specific problem area, while this technique allows you to explore multiple factors that might be impacting a process' outcomes.

This diagram outlines the common categories that contribute to an issue and is best used by a team to help make assessments of what factors might be at play.

## Directions

1. At the head of the fish, write down the problem you're trying to solve for.
2. Use the "spines" to identify the different categories that represent the factors that affect your process.
  - Traditional categories-
    - *Manpower – Number and types of personnel available to do the work.*
    - *Equipment – Tools, technology or appliances used to conduct the work.*
    - *Materials – Unfinished inputs that are needed to conduct the work.*
    - *Methods – Tasks used to carry out the work.*
    - *Measurement – How or How often is the work inspected.*
  - Service categories-
    - *Surroundings – The physical environment the work is done in.*
    - *Suppliers – Third parties that contribute to the work being done.*
    - *Skills – The knowledge, ability, or skills of the personnel doing the work.*
    - *Safety – Factors the impact the well-being of the personnel doing the work.*
    - *Systems – The procedures, standards, and expectations communicated to the personnel doing the work.*
3. List items or factors in each category that impact your process on the smaller "bones."
  - *Ex. Category: Equipment → Possible Factor: Utensils used in a backing process.*
4. Write down the factors that need to be investigated to determine their true impact to your process outcomes and determine next steps.

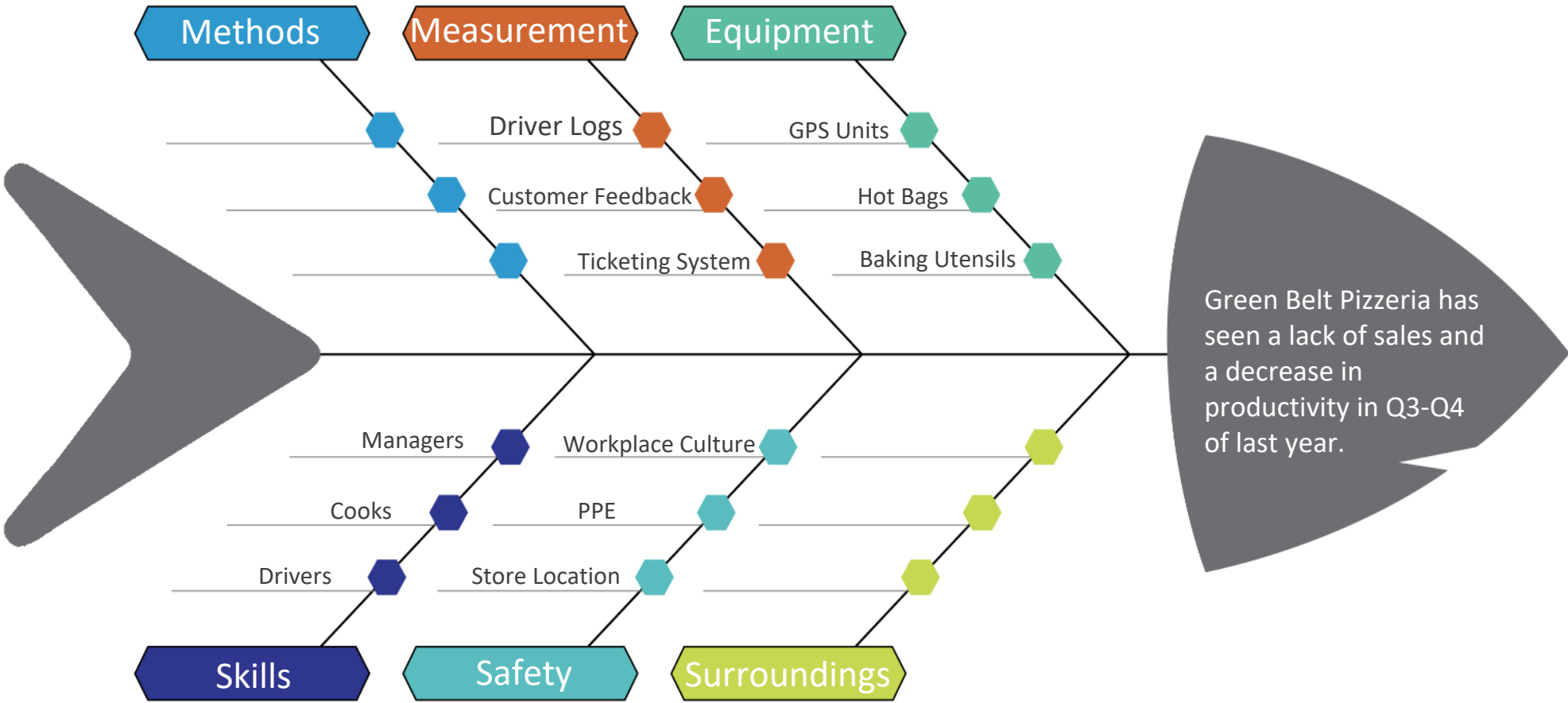
### Tips:

- *There may be more factors in each category than there is space on this template, and you may need to use additional paper or software to document your discussions. However, doing so may invite over-analysis. Try to keep your analysis accurate to the situation at hand, but as succinct as possible.*
- *Once complete, use the findings from this worksheet to guide any additional techniques you'll need to finalize your root cause analysis. (E.g. 5-Whys, Gemba Walks, Stand-in-the Circle)*



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Example



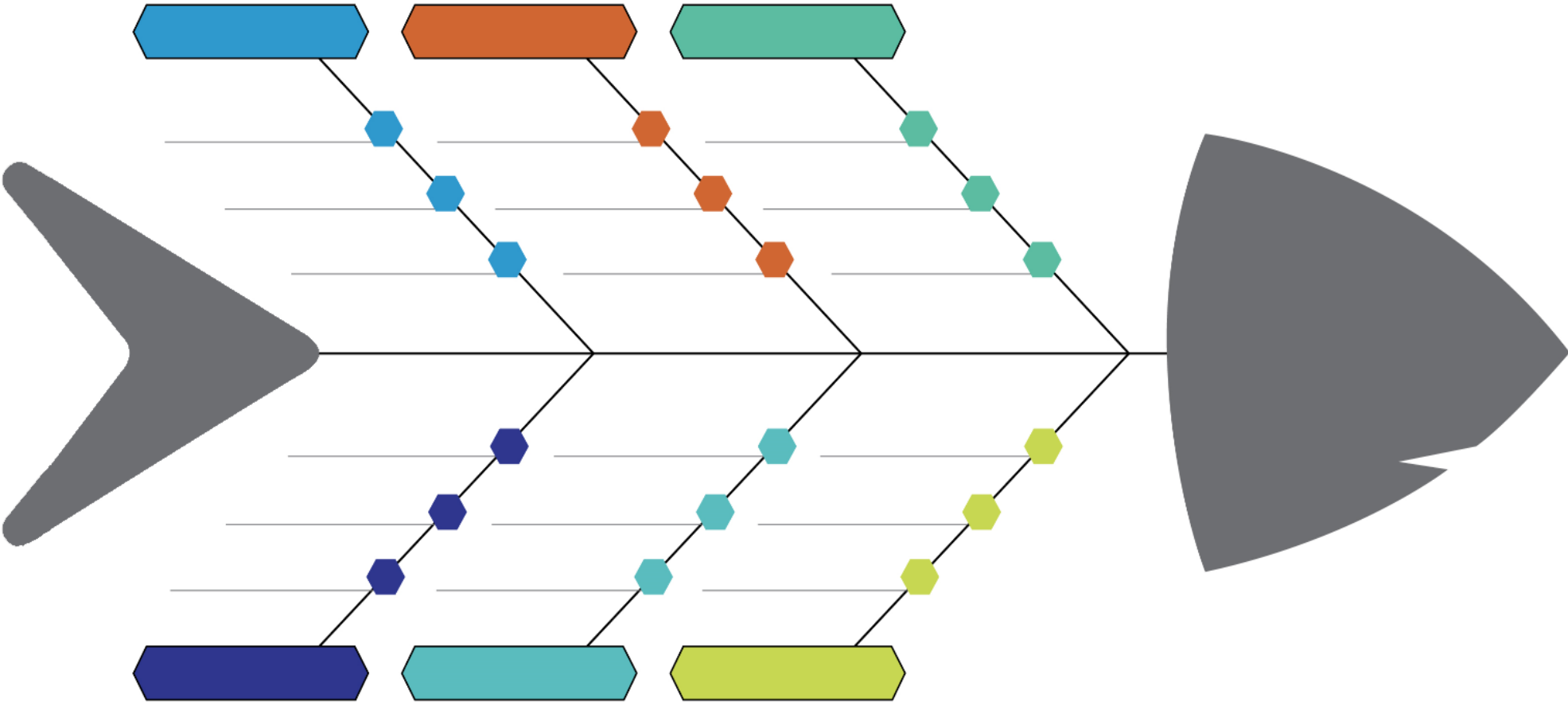
What Needs to be investigated and what are the next steps?

<b>Factor to Investigate</b>	GPS units	Customer Feedback	Cooks	Methods
<b>Next step</b>	Make sure they're updated	Review survey results	Review training documents	Evaluate store layout



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Worksheet



What Needs to be investigated and what are the next steps?

Factor to Investigate				
Next step				

