

LEAN Ohio
GREEN BELT
Transforming the Public Sector
Fishbone Root Cause Analysis

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Making state government in Ohio
simpler, faster, better,
and less costly.

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Learning Objectives

- Maslow's Hierarchy of Needs
- Juran's Classification of Customer Needs
- Identify the purpose of a Fishbone Diagram
- Describe how to use Fishbone Diagram to analyze a problem

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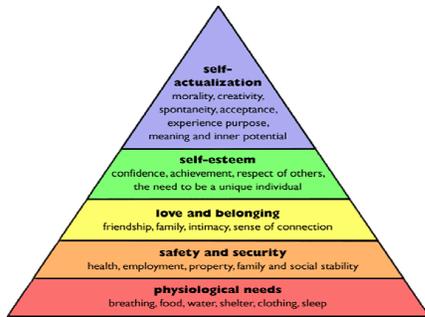
“Every problem is an opportunity.”

- *Kilchiro Toyoda, founder of Toyota*

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Maslow's Hierarchy of Needs



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Juran's Classification of Customer Needs

- **Customer needs** are complex
- Fall into five classifications:
 - *Stated*
 - *Real*
 - *Perceived*
 - *Cultural*
 - *Unintended*



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What is a Fishbone Diagram

- A tool to help identify & display potential causes of a problem
- Involves the whole team
- Visually promotes "System Thinking"
- An organized form of brainstorming
- Prioritizes further analysis

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Ishikawa Diagram

- First used by Dr. Ishikawa of the University of Tokyo
- Frequently referred to as an "Ishikawa Diagram"



Happy go-lucky Dr. Ishikawa

"Failure is the seed of success."
~Dr. Ishikawa

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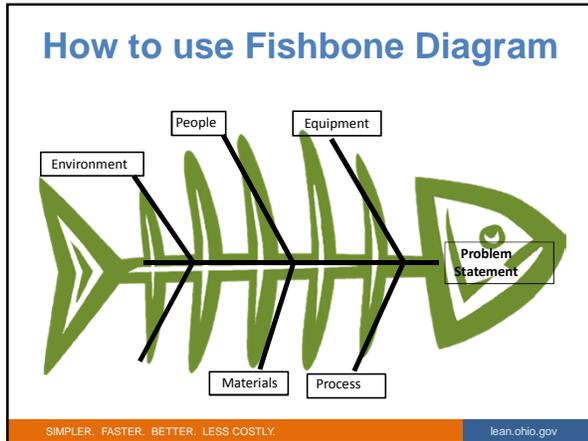
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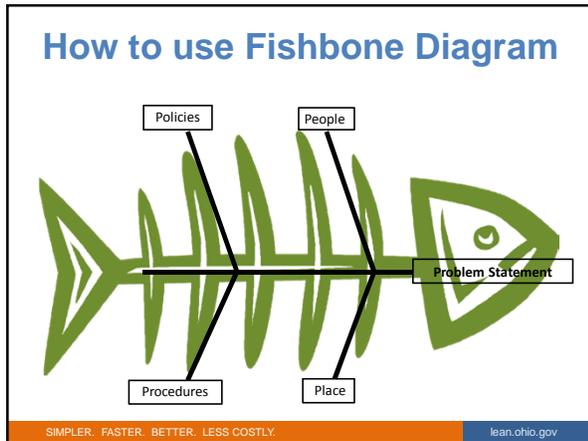
When to use Fishbone Diagram

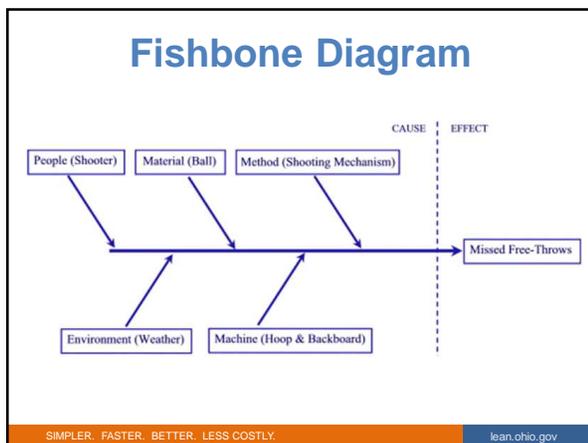
- Use during Define phase to assess the current situation
 - To identify possible causes of a problem
 - To ensure that all perspectives are understood
 - To ensure that nothing is overlooked
 - To avoid jumping to solutions
 - To verify the root cause

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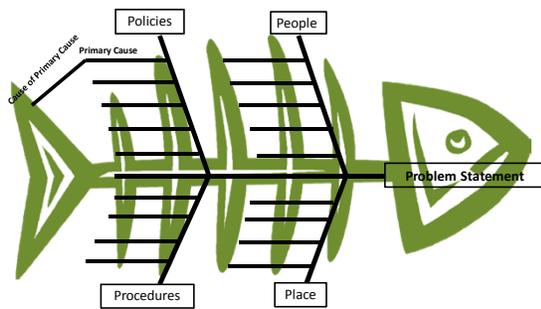
How to use Fishbone Diagram

- Select a problem
- Select categories
- Draw a fishbone
- Brainstorm; ask "Why?"
- Keep asking "Why?"

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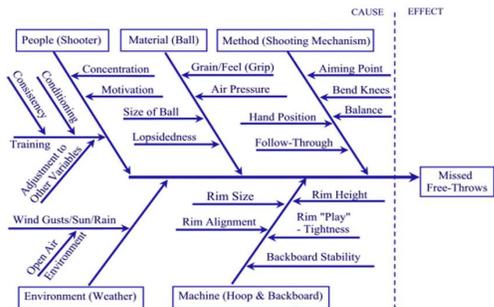
Design of Fishbone Diagram



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Fishbone Example



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Next Step: Analyze the Data

Identify most likely cause

- Causes that have the biggest impact
- Causes that occur often

Verify causes

- With data
- That the causes actually produce the effect that you think they do

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Fishbone Diagrams Tips

- Dig deeply into causes of the causes
- Use data to verify
- **DON'T JUMP TO CONCLUSIONS!**



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Example

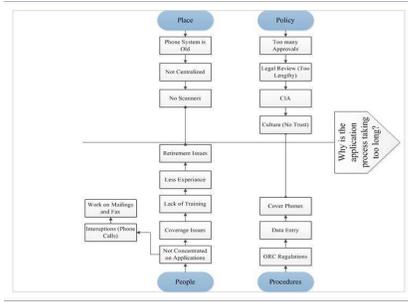
Problem Statement:

Why is the application process taking too long?

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Example



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Fishbone Diagram: Activity

- Start with a problem
- Identify as many potential causes as you can
- Draw a fishbone
- Write the problem as the head (effect)
- Draw the bones; choose the categories (causes)
- Start brainstorming by asking “why?”
- Keep asking “why?”



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Key Learning Points

The Green Belt should now be able to:

- Have a better understanding of the Customer’s Needs
- Understand Maslow’s Hierarchy
- Create a Fishbone Diagram

QUESTIONS?

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