



ROOT CAUSE ANALYSIS
FOR LEGISLATIVE AUDITORS

September 2014

Presentation to the Pacific North West Inter-
Governmental Audit Forum

What is Root Cause Analysis (RCA)?

2

- An approach to understanding why something happened or how a situation developed
- A body of qualitative and quantitative tools and techniques, not a single methodology
- Applied in a range of settings including accident investigation, risk analysis, business process improvement, change management, and quality control
- Used extensively in manufacturing and private sector

Common Applications of RCA

3

- **Sales:** Why did we lose that sale?
- **Manufacturing:** Why did we have down time?
- **Safety:** Why did we have that injury?
- **Operations:** Why did we have that delay?
- **Healthcare:** Why did that medication error occur?
- **Projects:** Why did the project take too long?
- **Environmental:** Why did the tailing pond collapse?
- **Performance Audit:** Why is the legislation not being complied with? Why is the organization not meeting its mandate?

Various Tools and Techniques Applied in the Private Sector

4

- SIPOC mapping (Suppliers, Inputs, Processes, Outputs, Customers)
- FMEA (Failure Mode and Effects Analysis)
- Kipling's questioning technique (What, Why, When, Where, How, Who)
- The "Five Whys" questioning technique
- Cause mapping
- Fish bone (Ishikawa) diagrams
- Flowcharting
- Pareto charts.

RCA and Public Sector Auditing

5

- ❑ RCA is not required by Canadian auditing standards
- ❑ Some argue it is the responsibility of entity management
- ❑ Some argue it is the responsibility of Public Accounts Committees
- ❑ So why bother?

Common Performance Audit Findings

6

- ❑ Rules and policies **not** complied with
- ❑ Results **not** achieved
- ❑ Risks **not** managed
- ❑ Strategies **not** followed
- ❑ Actions **not** coordinated
- ❑ Roles **not** clear
- ❑ Decisions **not** supported
- ❑ Oversight **not** in place

The Burning Question: *Why*?

7

- *Why* are entities not in compliance?
- *Why* are intended results not achieved?
- *Why* are risks not managed?
- *Why* are strategies not followed?
- *Why* isn't oversight occurring?
- *Why...? Why...? Why...?*
- **Analyzing the underlying causes of observed audit deficiencies helps to delve down below the surface, beyond the symptom, to answer these *Why* questions**

The Value-Added Proposition

8

- Root cause analysis can **significantly** increase the impact of public sector performance audits by...
 - ▣ Informing recommendations that address the cause of deficiencies, thereby leading to lasting solutions
 - ▣ Providing insight and explanation for audit findings

“The formulation of the problem is often more essential than its solution.”

Albert Einstein



**Integrating
Root Cause Analysis
into Legislative
Performance Auditing**

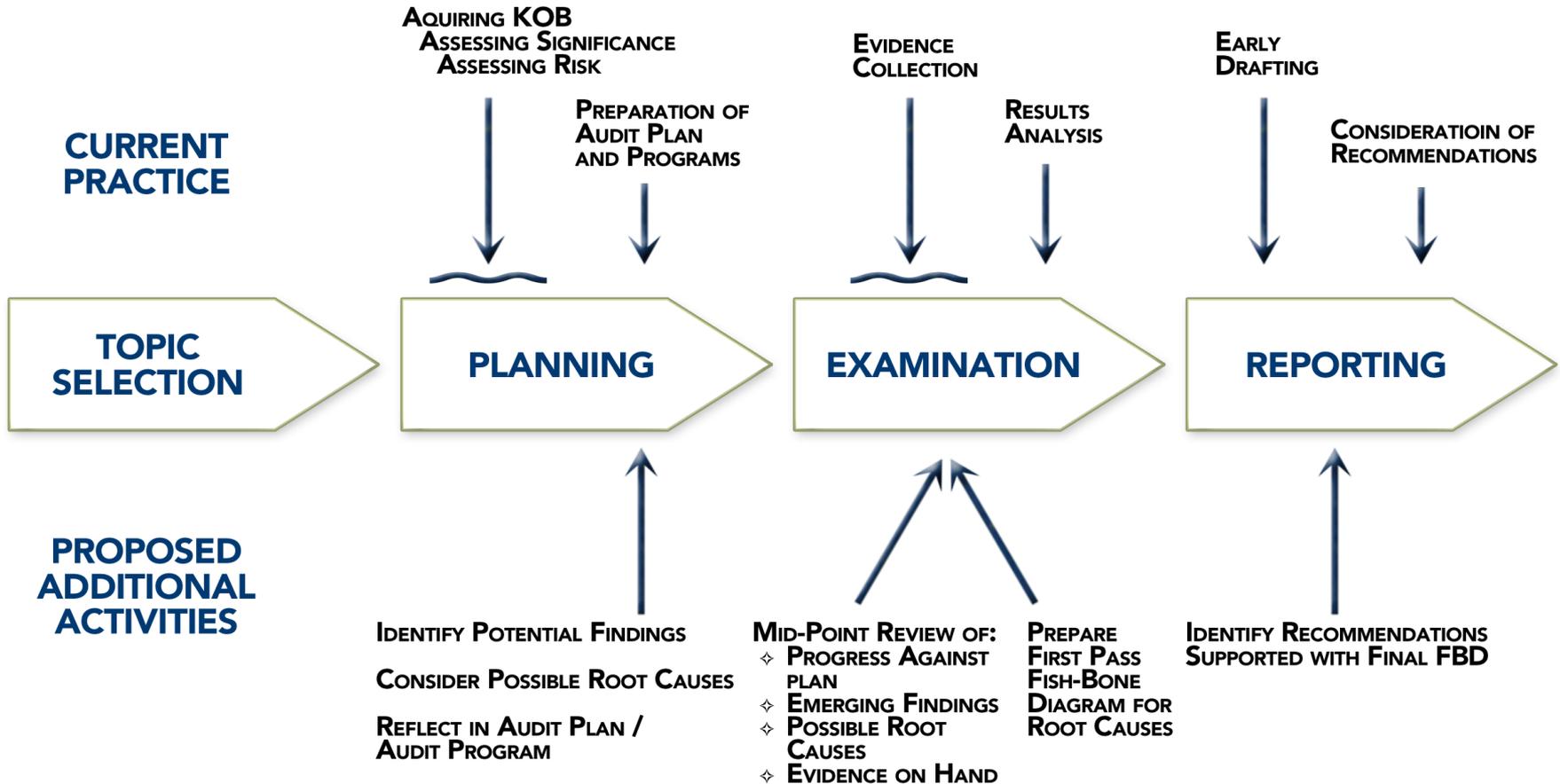
A Discussion Paper

The CCAF Discussion Paper

11

- Designed to assist legislative performance auditors to integrate root cause analysis into the audit engagement. The Discussion Paper addresses...
- *How* it can be carried out
 - ▣ Questioning technique
 - ▣ Tools to visualize or document the analyses
 - ▣ Categories of root causes tailored to a public service environment
- *When* it can be carried out
 - ▣ “Additional activities” that can be integrated into the typical performance audit process.

CCAF Process Suggestions



Basic Questioning Technique: The “Five Whys”

13

- Used and made popular by Toyota
- Ask the question “Why” Five times (+ or -) to get to the root cause
- Advantages: simple, intuitive, adaptable, can be combined with other techniques, such as Fishbone Diagram
- Disadvantages: Relies on professional judgment therefore results may not be repeatable, tendency to identify one root cause, does not provide structure or categorization of causes

Five Whys Example

14

An Example of the Five Why Technique

Significant Finding: The fleet of vehicles did not meet the availability target.

Why? The vehicles were often not available due to mechanical problems.

Why? Not enough technicians on site to do all the necessary maintenance and repairs

Why? Too few technicians have completed the training program in recent years.

Why? Not enough instructors to provide the required training.

Why? Many instructors retired the same year and there was no succession plan or recruitment strategy.

Recommendation (aimed at symptom): The entity should ensure that the fleet of vehicles meets availability targets.

Recommendation (aimed at cause): The entity should establish a succession plan and recruitment strategy for instructors and technicians to support maintenance activities.

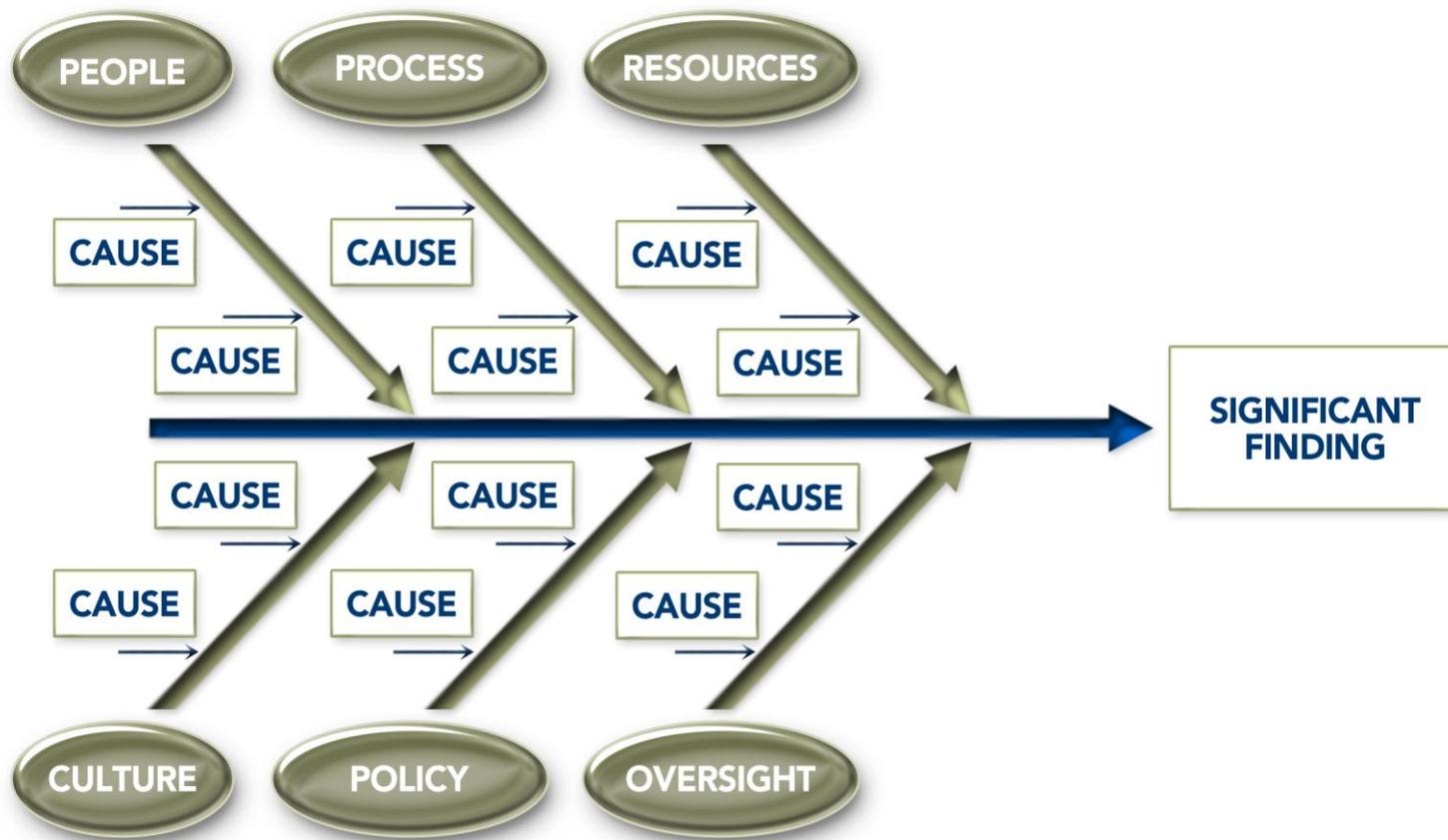
Visual Tool: Fish Bone Diagram

15

- Popularized by Toyota
- The Fish Bone technique is a diagram-based approach for thinking through all of the possible causes of a problem
- Commonly used for product design, defect prevention, and problem-solving

Generic Fish Bone Diagram and Traditional “Main Categories”

16

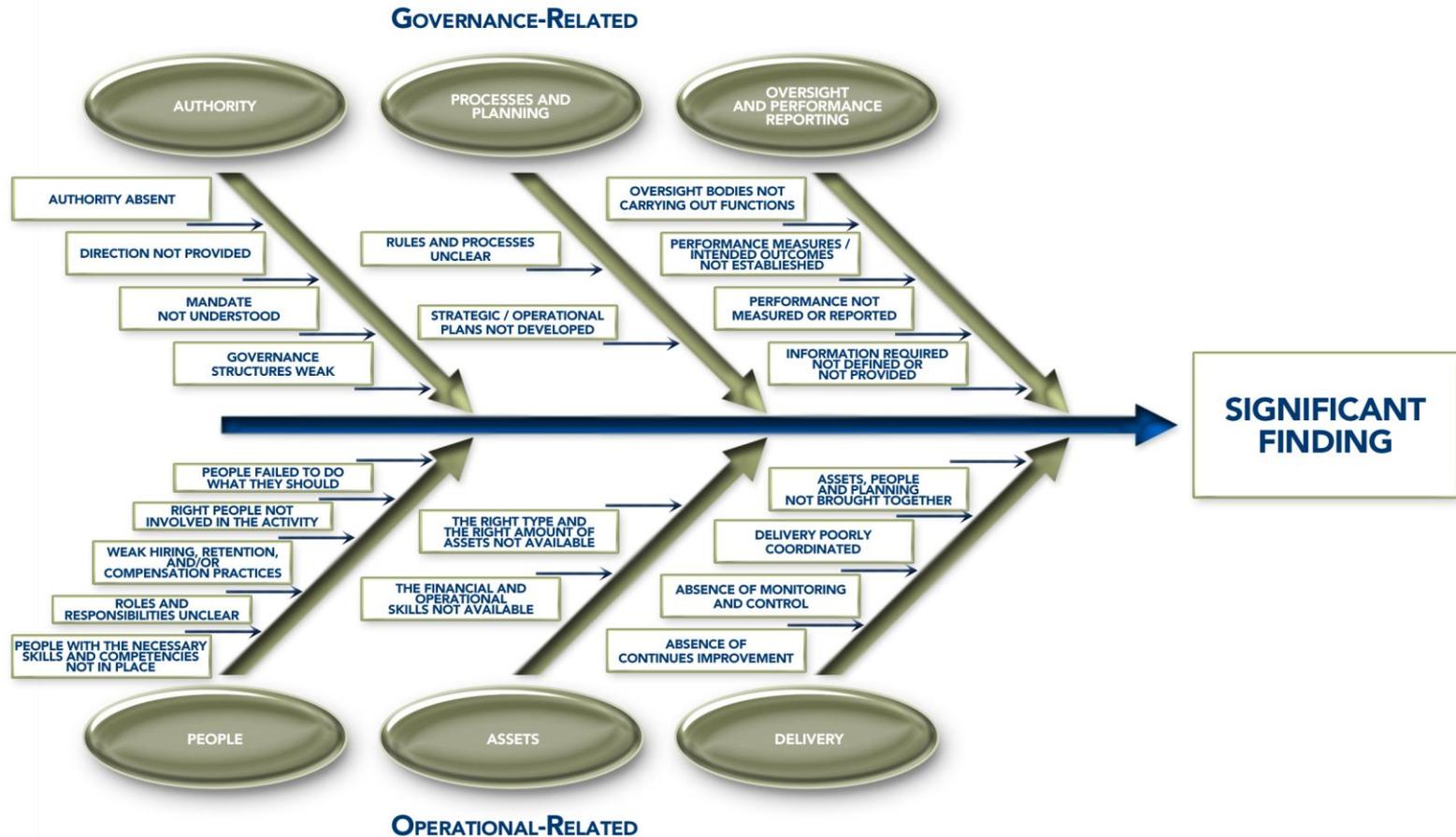


Proposed New Main Categories and Indicators of Root Causes

17

- Governance Related
 - ▣ Authority
 - ▣ Process and Planning
 - ▣ Oversight and Performance Reporting
- Operations Related
 - ▣ People
 - ▣ Assets
 - ▣ Delivery

CCAF Fishbone Diagram (Detailed)



Using the Main Categories

- The list is indicative, not exhaustive – add, subtract or adjust
- Not all categories or sub-categories will be applicable for each audit
- Findings and causes can be “exchangeable” - what is considered a root cause in one audit may be a significant finding in another audit
- The categories are inter-related and not mutually exclusive

Caution!

20

- In a public sector environment, there is a potential that the causes of significant audit findings may be traced back to the merits of policy or the adequacy of resources

Steps for Using the Fish Bone Technique

21

- ❑ Start with a blank paper or whiteboard and be prepared to draw a Fish Bone diagram.
- ❑ Describe the significant audit finding
- ❑ Determine the possible main category(s) involved
- ❑ Identify possible root causes under each main category (Consider the “possible indicators of cause”)
- ❑ Analyze your diagram and exercise professional judgment to determine the most likely root causes
- ❑ Investigate these further, if needed, to confirm the actual root causes and obtain sufficient appropriate evidence (if reported)

Template for Documenting

22

Significant finding	Answer to the Five Ways	Main Root Cause	Secondary Root Cause	Recommendation
	<ol style="list-style-type: none">1.2.3.4.5.			
	<ol style="list-style-type: none">1.2.3.4.5.			

CCAF Process Suggestions

