

## Measuring Investigation Effectiveness

### Investigation Key Performance Indicators

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## Session Objectives

- Explore the key components of the investigation process
- Identify key indicators of investigation effectiveness
- Present examples of ways to measure investigation effectiveness

How to better utilize the time and money you invest in investigations



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## What Compromises Investigation Effectiveness?



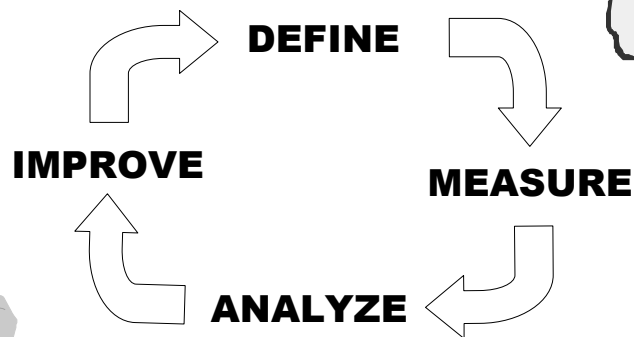
- Failure to collect enough, or the right, information
- Events are missing or too general
- Limited number of conditions on the SnapCharT®
- SnapCharTs® do not evolve “through the seasons”
- Causal factors are poorly defined or missed
- Dictionary is not used – opinions used instead
- Corrective actions are not SMARTER
- Corrective actions don’t address all root causes
- Poor team dynamics waste time / shut down participation



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## Investigations are a Process

For ANY Process ...



What are the steps of your investigation process?



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## Performing an Effective Investigation

Collect information



Construct SnapCharT®



Perform root cause analysis



Develop and implement corrective actions

Use a well-rounded investigation plan to help you define the different types of information that needs to be collected

Define the events and conditions that led up to and followed your incident – use Safeguard analysis, change analysis, Equifactor®, and CHAP to add to your SnapCharT®

Use your SnapCharT® and dictionary to help you take each causal factor through the root cause tree

Use SMARTER and the Corrective Action Helper to develop well-defined corrective actions – include actions for validation and verification



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## Evaluating Investigation Effectiveness

- Did we collect enough of the right information?
- How well is our SnapCharT® constructed?
- How well did we define our causal factors?
- To what degree can our root causes be validated?
- How well did we use the time we invested?
- How well did we manage and utilize our team dynamics?
- How will we justify our recommendations?
- Will our corrective actions address all specific root causes?
- Will our corrective actions address all generic root causes?



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## How Should You Use Your Team?

- Team members can be assigned to collect different types of investigation information
- The team setting is a great place to create SnapCharTs®
- The team can be used to define a broad set of 'out of the box' corrective actions
- A team setting may not be the best for conducting interviews
- Using a team approach to go through the root cause tree is not recommended

A combination of individual and team efforts is needed to do a great investigation!



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## The Investigation Effectiveness Scorecard



Information Collection	Amount	Accuracy	Sources
SnapCharT® Construction	Events	Conditions	Assumptions
Root Cause Analysis	Causal Factors	Root Causes	Dictionary Use
Corrective Action Development	Specific	Root Cause Impact	Measurable and Effective
Team Dynamics	Use of Time	Involvement Degree	Relationships



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## Measuring Investigation Effectiveness

<i>To What Degree ...</i>	LOW ----- HIGH
Was the investigation performed in a timely manner?	1 2 3 4 5
Was a formal investigation process followed?	1 2 3 4 5
Was a plan for the investigation created?	1 2 3 4 5
Was information collected from several sources?	1 2 3 4 5
Were effective interview questions asked?	1 2 3 4 5
Were interview questions asked effectively?	1 2 3 4 5
Was data analyzed to support the investigation?	1 2 3 4 5
Were SMARTER corrective actions created?	1 2 3 4 5
Did the investigation team work together well?	1 2 3 4 5



**Total Score:**

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## Measuring SnapCharT® Effectiveness

<i>To What Degree ...</i>	LOW ----- HIGH
Does each event contain only one action item?	1 2 3 4 5
Are both "who" and "does what?" defined in each event?	1 2 3 4 5
Are job titles used instead of names?	1 2 3 4 5
Are dates and times used as appropriate?	1 2 3 4 5
Are action items only shown in events?	1 2 3 4 5
Are conditions used to amplify each event?	1 2 3 4 5
Are conditions used to identify what was not done?	1 2 3 4 5
Are assumptions clearly identified or addressed?	1 2 3 4 5
Have different SnapChart® seasons been created?	1 2 3 4 5



**Total Score:**

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## Measuring RCA Effectiveness

*Calculate a score for EACH casual factor that is defined*

<i>To What Degree ...</i>	LOW ----- HIGH
Does each causal factor pass the “Who did what wrong?” or “What equipment failed?” test?	2 4 6 8 10
Does each causal factor pass the “direct incident impact” test?	2 4 6 8 10
Was the dictionary consistently used?	2 4 6 8 10
Were conditions used to answer each dictionary question?	2 4 6 8 10
Can each root cause selected be validated with one or more condition?	2 4 6 8 10
Have generic causes been identified?	2 4 6 8 10

*Total Score:*



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## Measuring Corrective Action Effectiveness

*Calculate a score for EACH corrective action that is defined*

<i>To What Degree ...</i>	LOW ----- HIGH
Is each corrective action specific?	1 2 3 4 5
Is the corrective action measurable?	1 2 3 4 5
Has accountability been for defined?	1 2 3 4 5
Has a return on investment been considered?	1 2 3 4 5
Have timeliness factors been considered?	1 2 3 4 5
Has a means of verifying effectiveness been identified?	1 2 3 4 5
Have unintended consequences been anticipated?	1 2 3 4 5
Have all applicable root causes been addressed?	1 2 3 4 5

*Total Score:*



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## Key Improvement Questions

- What are strengths and weaknesses of your existing investigation process?
- How can you improve the effectiveness of your investigation team and investigators?
- What information are you good at collecting? What information do you need to get better at collecting?
- What are the most important actions you need to take to improve your investigation process?
- What will you start doing differently NEXT WEEK?

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## How to Improve Your Investigations

### SnapCharT®

- Try to link conditions to the events they relate to
- Reflect investigation findings as events or conditions
- Remember the four seasons of a SnapCharT®

### Root Cause Tree

- Follow the correct process to work through the tree
- Use the Taproot® Dictionary
- Avoid using a team to work through the root cause tree

### RCA Process

- Remember that generic causes may exist
- Use SnapCharT® conditions to validate each root cause selected
- Strive to improve the quality of your SnapCharTs®

### Corrective Action Matrix

- Link root causes to corrective actions
- Strive to write SMARTER corrective actions
- Track corrective action validation and verification

### Taproot® Book

- Review Appendix A for investigation tools and ideas
- The book contains examples to help improve your analysis
- Refer to the book prior to beginning your investigation



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