



Evidence-Based Decision Making

**State of Nebraska
Center of Operational Excellence**

Matthew Singh, M. Sci., CLSSMBB, PMP
Director & Master Black Belt

Don Arp, Jr., MA, CLSSEGB, CLSSGB
Deputy Director for Change Management

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Words of Wisdom

“It is a capital mistake to theorize before one has data. Insensibly one begins to twist facts to suit theories, instead of theories to suit facts.”

-Sherlock Holmes
A Scandal in Bohemia





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Making Decisions

- Leaders make dozens of decisions every day.
- Decision-making can be a complicated endeavor.
- Some leaders benefit from approaching decision-making from the standpoint of data and analytics. How?





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9 Steps to an Evidence-based Decision

1. Directive
2. Identify
3. Target
4. Data
5. Understand
6. Solutions
7. Decision
8. Check
9. Iterate





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Example Based Session

Your group is the executive management team for the State of Whitaker's Department of River and Waterway Inspections (DRWI). The DRWI works with several other state departments, namely: Environmental Quality; Health and Human Services; Resources and Minerals; and Nature and Game.

DRWI has a motto: "DRWI—A Strong Current of Team Work." Working with these partners, DRWI inspects the state's waterways for signs of pollution, drought, invasive species, vandalism, and illegal irrigation. Once found, DRWI refers the findings to the appropriate agency for investigation and adjudication. For example, a DRWI inspector recently found that Whitaker Creek had a colony of zebra clams, an invasive species known to discharge a chemical fed on by toxic algae. The inspector referred the find to the Department of Nature and Game who sent an investigator to follow up on the case. Nature and Game arrested an aquarium hobbyist for illegal dumping and then referred the case to Environmental Quality for further investigation.





1. Directive

- Directive: Determine the goals to be met or the constraints to be resolved.
- What situation are we facing?
 - How to cover budget cuts?
 - How to handle workload without increasing FTEs?
 - How to handle citizen complaints?
 - How to handle a merger of agencies?





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1. Directive (cont'd)

- Open your **Group Exercise Packet** and read pages 2, 3, and 4.
- As a table group, assign roles on page 2 and complete the exercise on page 4.





2. Identify

- Identify: Brainstorm with staff to identify potential issues to resolve.
- Brainstorm with executive staff or trusted advisors
 - Examples
 - Areas that over-spend on the budget
 - Areas that have large resource allocations
 - Topics getting media attention





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Waste = Opportunity

Eight Types of Waste (“Muda”)

Defects

Rework, scrap, incorrect documentation

Over production

Making more than is IMMEDIATELY required

Waiting

For parts, information, instructions, equipment

Not utilizing talent

Under utilizing capabilities, delegating tasks with inadequate training



Transport

Moving people, products & information

Inventory

Storing parts pieces, documentation ahead of requirements

Motion

Bending, turning, reaching, lifting

Extra processing

Tighter tolerances or higher grade materials than are necessary

D.O.W.N.T.I.M.E.





2. Identify (cont'd)

- As a table group, complete the exercise on page 5.
- There is a chart of brainstorming techniques on that page if you need a refresher.



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3. Target

- Target: Select the problem.
- There is no one right answer in selecting a problem as much depends on your strategy and your agency's needs.
- The only wrong decision is not picking a problem to solve.





3. Target (cont'd)

- As a table group, complete the exercise on page 6.





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Break

- Take 10 mins





4. Data

- Data: Obtain data surrounding problem.
- Sources
 - Pull reports from data systems
 - Interview employees/customers.
 - Review agency financials.
 - Leverage staff expertise.
 - Look at media coverage.
 - Review strategic plans, annual reports, and audits.





4. Data (cont'd)

- Page 3 provides some data sets to you.
- As a table group, complete the exercise on page 7.



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5. Understand

- Understand: Analyze the data and insights to gain a functional understanding of the issue.
- Understand the issue and analyze the situation around it.
- Clearly articulate what the facts, restrictions, risks, and assumptions are surrounding this issue.
- Find someone to discuss the situation with.





5. Understand (cont'd)

- As a table group, complete the exercise on page 8.





6. Solutions

- Solutions: Brainstorm potential solutions.
- Examples:
 - Postpone filling open positions
 - Discontinue printing some publications
 - Move to cheaper office space
 - Surplus and auction unused furniture in storage
 - Use staff talent and not consultants.





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6. Solutions (cont'd)



White Hat

Focus on the facts
and figures only.



Red Hat

Emotions control this
perspective.



Blue Hat

Organized and
structured.



Green Hat

Creativity and
innovative thinking.



Black Hat

Careful, cautious,
and critical.



Yellow Hat

Positive and
optimistic.





6. Solutions (cont'd)

- As a table group, complete the exercise on page 9.





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7. Decision

- Decision: Decide and implement.
- Clearly articulate your criteria for selecting a solution.
 - Criteria could include cost, simplicity of execution or available resources, to name just a few.
- Once the decision is made, develop an implementation plan.
- Make sure to include what team members, time, and resources are needed.





7. Decision (cont'd)

- As a table group, complete the exercise on page 10.





8. Check

- Check: Check your change to see if it is having desired impact.
- Did the decision have the desired impact?
- How do you know?





8. Check (cont'd)

- As a table group, complete the exercise on page 11.



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9. Iterate

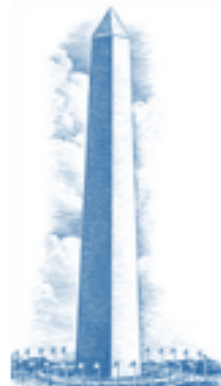
- Iterate: If the decision isn't working, brainstorm with staff and make desired changes as needed until it does work.
- Root cause tools



9. Iterate (cont'd)

EXAMPLE: 5 Whys

The stone of the Washington Monument is wearing away.



Why?

Strong cleaners are used on the stone.

Why?

Strong chemicals needed to clean up pigeon droppings.

Why?

Pigeons eat spiders at the Monument and leave droppings.

Why?

Spiders hunt gnats around the monument.

Why?

Gnats are attracted by lights at the Monument.

Why?

Lights come on too early and attract gnats.





9. Iterate (cont'd)

- As a table group, complete the exercise on page 12.





Evidence-Based Decision Making

Questions?

