

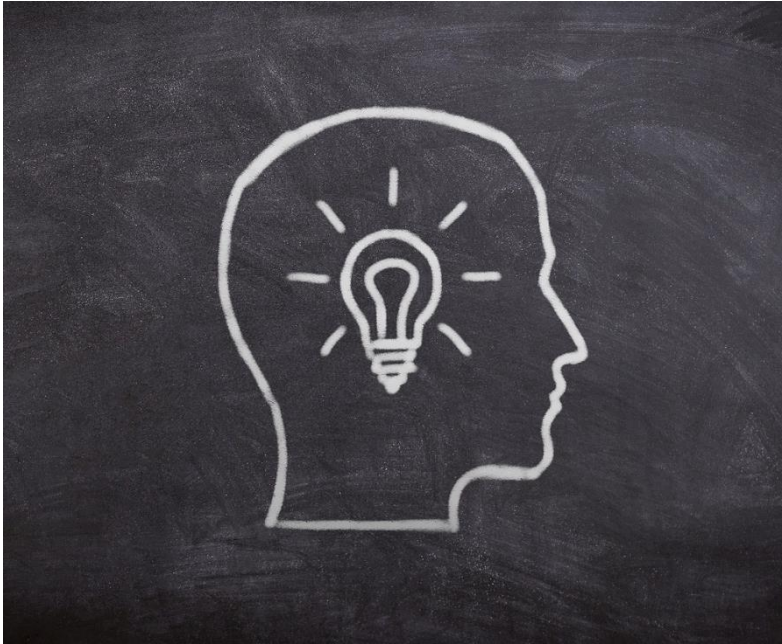
Using Decision Science to Integrate Multiple Voices into Complex Decisions

Daniel Schneider and Bill Haskett

November 1, 2023 – GeoEnviroPro Talk Webinar Presentation



Key points I want you to remember.....

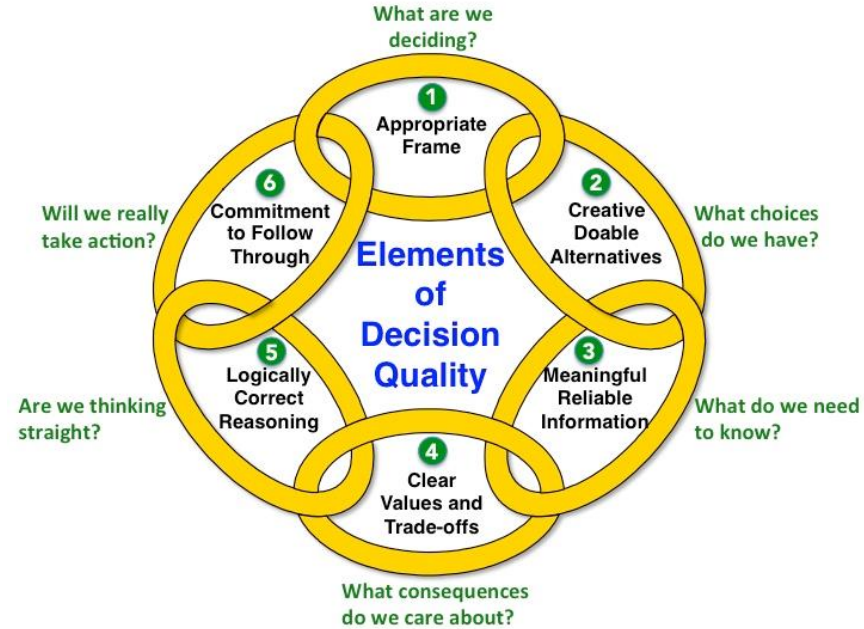
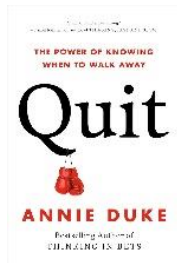
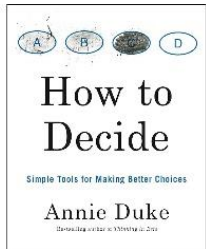


A Decision Centric approach:

- › Is a scalable, adaptable, and easily applied.
- › Provides a great toolset for the complexity of today's project decisions.
- › Will save you time, money, effort, and help you create more value out of your projects!

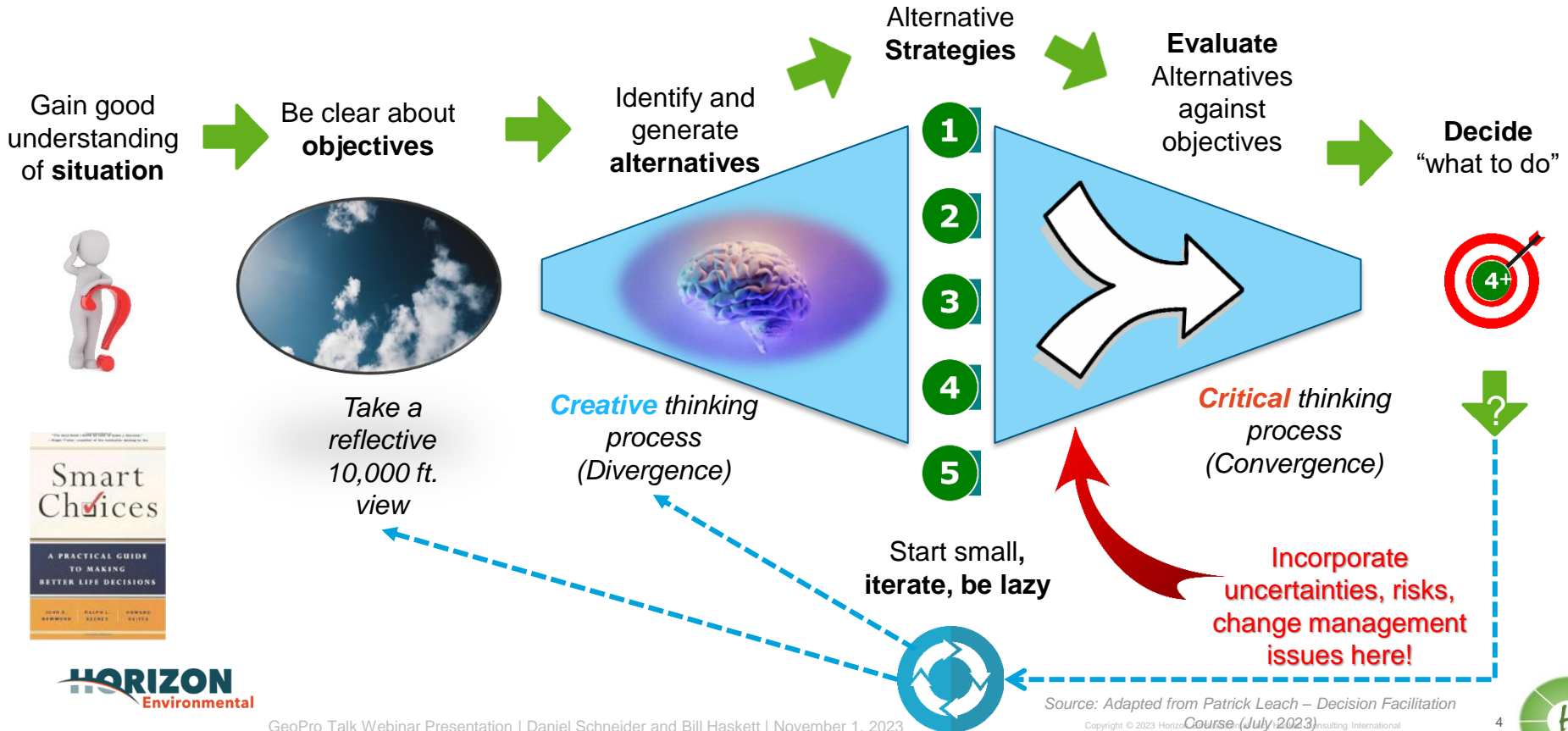
Helping People Making Good Confident Choices

Decision Science deals with each differently



Source: Stanford University Decisions and Ethics Center

Overview of Decision Centric Approach



The Decision Centric Approach for Kids



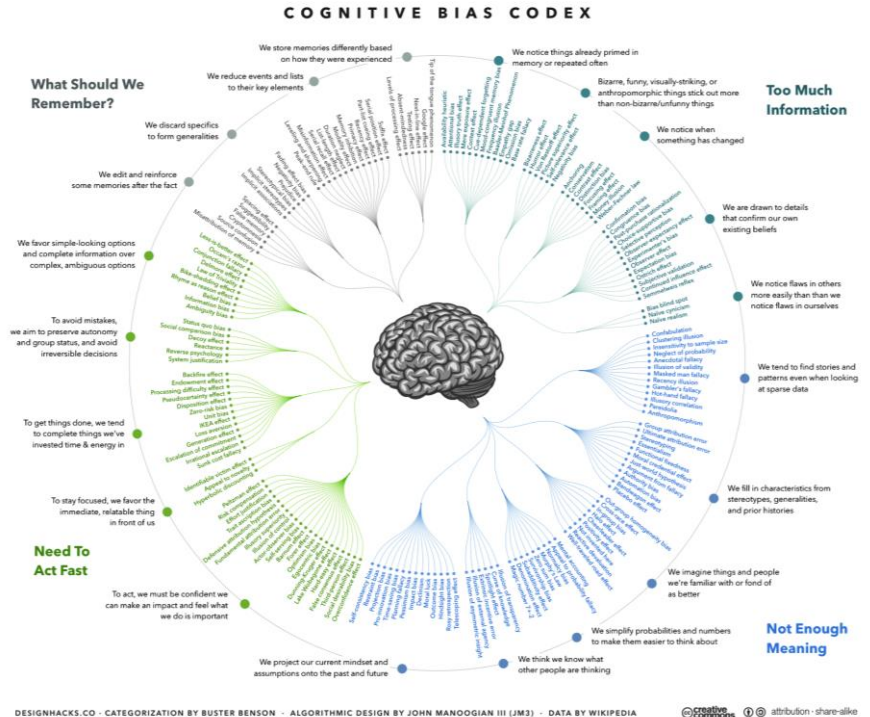
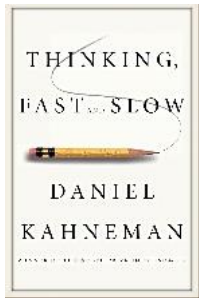
DECISION MAKER MOVES

1	2	3	4	5	6
<p>Frame the choice</p> <p>What are we really deciding?</p>	<p>Clarify what matters</p> <p>What are our objectives?</p>	<p>Generate options</p> <p>How could we achieve our objectives?</p> <p>1 = 2 = 3 =</p>	<p>Explore consequences</p> <p>What could happen?</p>	<p>Weigh trade-offs</p> <p>What's best, all things considered?</p>	<p>Stay curious</p> <p>What do we need to learn or adjust?</p>
<p>Big Ideas</p> <p>When problems are framed as choices, we can engage and have an intentional impact.</p> <p>Choices include judgments—what we are for or against.</p> <p>Even if we can't directly change things, how we think and talk about issues and choices can affect others.</p>	<p>Big Ideas</p> <p>We make better choices when we start by clarifying what we care about—our objectives.</p> <p>Most decisions affect many things we care about.</p> <p>Different people have different perspectives about what matters, and how much.</p>	<p>Big Ideas</p> <p>We make better choices when we have lots of good ideas to choose from.</p> <p>There are usually many good solutions rather than one "right" one.</p> <p>The best solutions are the ones we design, often together, to align with our values.</p>	<p>Big Ideas</p> <p>We can build a good understanding of likely consequences based on sound evidence and reasoning.</p> <p>Some sources of information and lines of reasoning are more credible than others.</p> <p>We make better choices when we face uncertainty directly.</p>	<p>Big Ideas</p> <p>Most decisions involve trade-offs—we have to balance multiple things we care about.</p> <p>We need to consider both the facts (what will happen) and the values (what's most important).</p> <p>People with very different values can agree on a solution.</p>	<p>Big Ideas</p> <p>Things change—the way the world is, how much we know, what we want—and we need to be ready to change our minds.</p> <p>Unexpected things happen; a bad outcome doesn't mean it was a bad decision.</p> <p>Practice pays off. If we pay attention, we get better at hard choices over time.</p>
<p>Go-to questions</p> <p>What are the different ways this decision could be framed?</p> <p>What decisions are already made?</p> <p>What can we decide later?</p>	<p>Go-to questions</p> <p>Why is that important?</p> <p>What do you mean by that?</p> <p>Who else is affected and what would they care about?</p>	<p>Go-to questions</p> <p>Wait – have we clarified our objectives?</p> <p>How can we achieve that? How else can we achieve that?</p> <p>What else that we care about could be affected?</p>	<p>Go-to questions</p> <p>Is that a fact or an assumption?</p> <p>What's the evidence? Is it reliable? What biases might be in play?</p> <p>What do we not know, and how does that affect things?</p>	<p>Go-to questions</p> <p>Why do we like or dislike it?</p> <p>What would we rather have? Would we give up A for B? (Consider the specific trade-offs)</p> <p>How could we reduce the downsides? Can we think of better options?</p>	<p>Go-to questions</p> <p>Did we achieve what we wanted?</p> <p>What did we learn? What questions remain? What new ones have been raised?</p> <p>What now? What new decision opportunities are out there?</p>

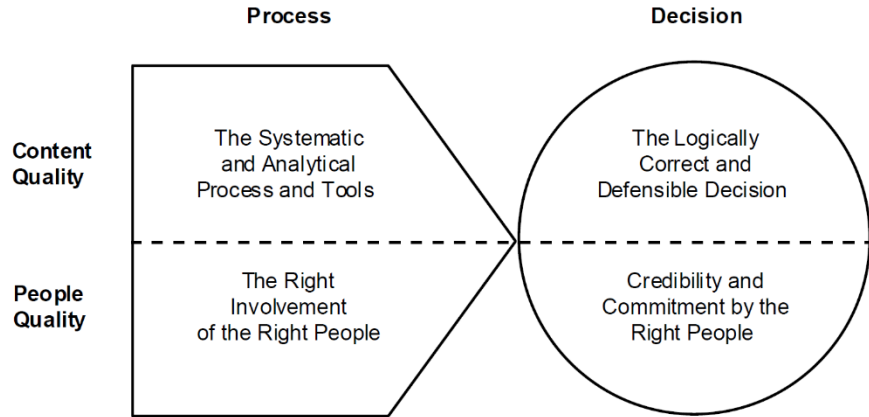
Source: <https://deltalearns.ca/decisions> Delta School District, R. Gregory, L. Failing, G. Long

Decision Science + Behavioral Science = Powerful Combination

- › Decision support provides a process that helps us slow down.
- › Hard to recognize and guard against bias
- › Facilitation and structured process guard against bias



Leverage Group Wisdom



Technical
complexity



Organizational
complexity



Social / Political complexity



Decision Support is an Art and a Science.....

Values and Objectives

Decisions to Make

Uncertain Events

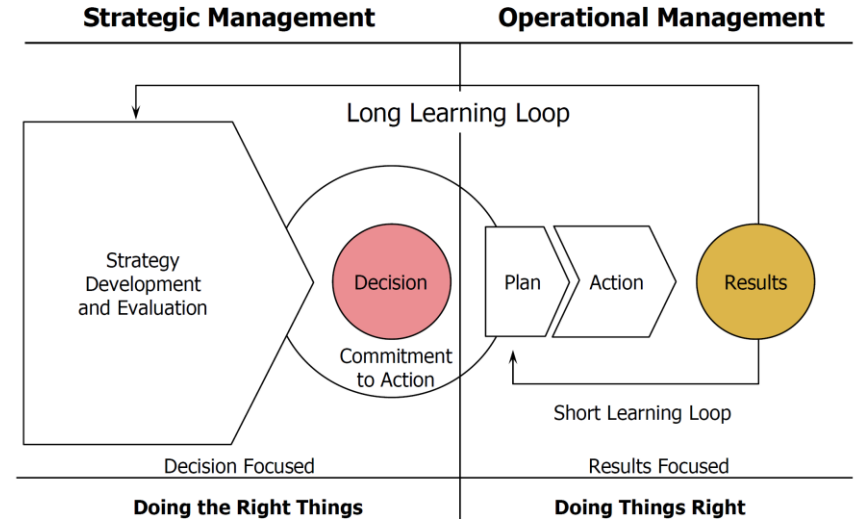
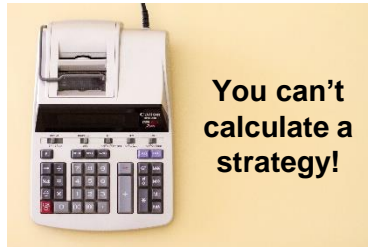
Consequences

Tool Time:

- Structured brainstorm
 - Objective Hierarchy
 - Objective Ranking
 - Objective Conflict
 - Objective Fulfillment Requirement
 - Five Whys
- Decision Hierarchy
 - Objective Trade-off mapping
 - Objective Ranking
 - Objective Fulfillment
- Strategy Tree
 - Indifference Assessment
 - Clairvoyant Role
 - Value of Information
 - Risk Matrix
- Pre-mortem
 - Means – End Diagram
 - Consequence Diagram
 - Consequence Tree
 - Control value
 - Value Ease Matrix

Use Decision Science to “Think Slow, Act Fast”

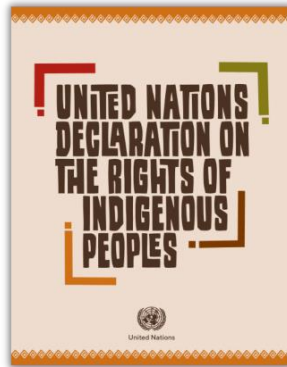
- › Tools can be adapted to help define **strategy** and **operational** management decisions



Source: SmartOrg, SDP Webinar March 20, 2013

Create Common Understanding Culture

- › Foster inquiry, not advocacy will enable generative dialogue and true collaboration
- › Put an emphasis on **inclusion** not management of external parties and rights holders. Embrace unavoidable conflict.
- › battle bias, be kind, be authentic



Key points I want you to remember.....



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What You Can Do Today!

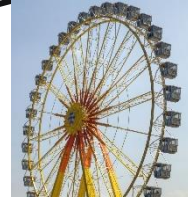
Things I want you to Remember... (or at least think about)

- The majority of conflict stems from differing **Objective Prioritization**.
- Every destination has multiple paths that lead there, but you have to know what that destination is, and where you are starting from.
- It is just as important to understand why an option was not chosen as it is to know what you are going to do.
- Stay **Qualitative** as long as possible. Going **Quantitative** too soon introduces huge bias and can lead to analysis paralysis or significant re-work.



Home, Sweet Home

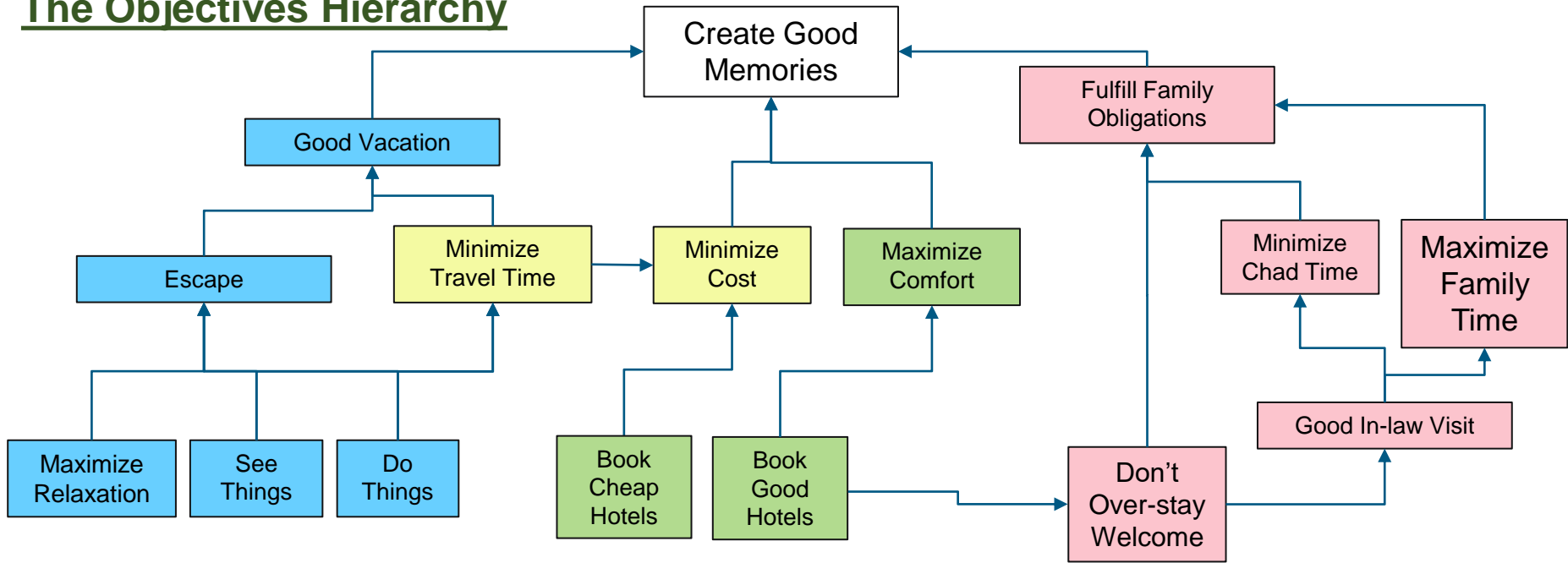
You Have Options – Let's visit the In-laws!



But why when there's so much we could do?



The Objectives Hierarchy



What you prioritize changes your preferred solution.

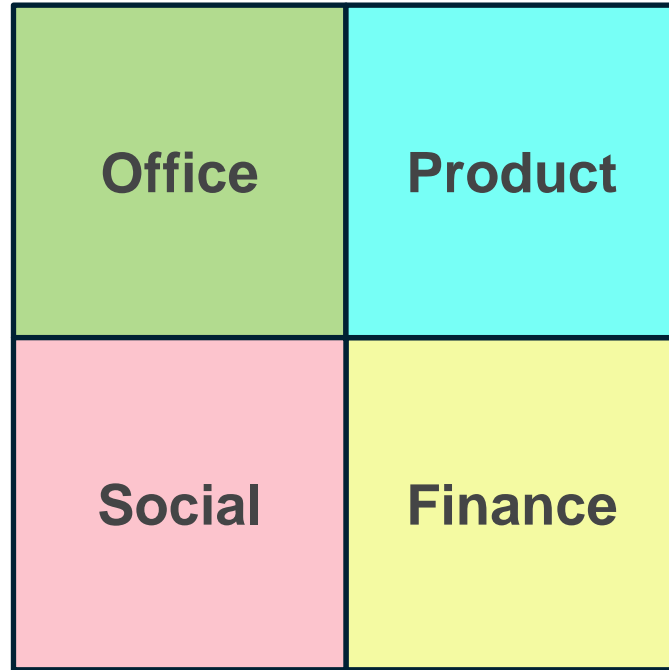
Evaluate your options based on objective preference and trade-off.

Understanding your preferred Objectives, and minimum acceptable fulfillment, is the foundation of Good Decisions!

Objective “Arenas”

Every project you have has these categories.

The planning and support to carry out the action.



The external impression you make.

What you are producing.

BIAS

Often the only category project teams seem to care about

How it is being paid for.

Decision Support for Threats and Risk

Think about 4 Questions:

1. Does it make a material difference to the project?
2. Can you do anything about it?
3. Can you afford to do anything about it?
4. What if you are wrong?

Haskett, W.J. (2021) Four Simple Questions – The Decision-Centric Approach to Projects and Project Management, SPE 205848



Decision Support Tools for 4 Questions

1. Does it make a material difference to the project?

Indifference Assessment – How bad can it be before you would rather do something different?

2. Can you do anything about it?

Mitigate, avoid, transfer, accept (sadly, many projects unknowingly accept)

3. Can you afford to do anything about it?

Value of Information, Value of Control, Value of Learning

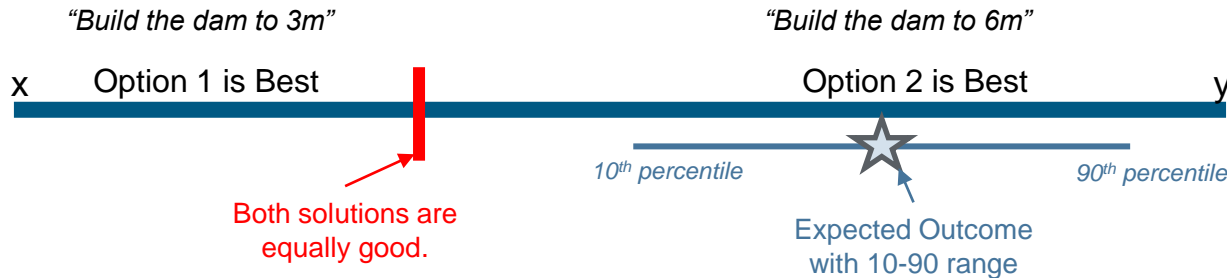
4. What if you are wrong?

Pre-mortem with proximate and contributory cause, Risk Asymmetry Assessment, Materiality

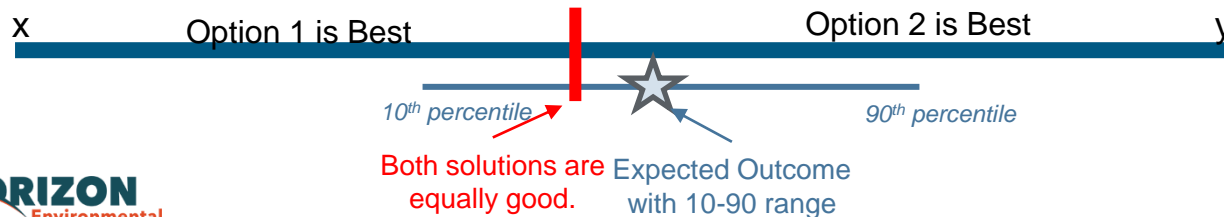
Do you really need to do that work?

It is better to have confidence that what we have is greater than what we need to have, than it is to spend time precisely defining the expected result of an uncertainty.

We have an uncertainty (e.g., yearly throughput need) in our project the *possible* outcome ranges from x to y.



As the decision change point is far away from the expected outcome, you don't have to spend people/money/time on precisely defining what will happen. The probability of being wrong is minimal.



This situation warrants further effort.

Make Great Decisions....

- Leverage group wisdom, creativity
- Discover value
- Execute projects faster and efficiently
- Not difficult, shift thinking, reduce bias
- Lots of learning resources available



SOCIETY OF
DECISION
PROFESSIONALS



Let's Talk Decision Support!



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