

# Debugging the Mind

Cognitive Biases in (Tech) Decision-Making



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# Pete Our CTO



# Confirmation Bias

Tendency to seek information  
confirming existing beliefs

**Observe**  
**Orient**  
**Decide**  
**Act**

**(John Boyd)**

# Confirmation Bias

Definition: Tendency to seek information confirming existing beliefs

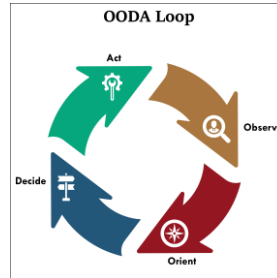
Pete's Cloud Migration Example:

- Focusing on cloud migration benefits
- Ignoring potential risks

Consequences: Inadequate planning, underestimated challenges

OODA Loop (John Boyd):

- Observe: Gather comprehensive data
- Orient: Analyze in context
- Decide: Make balanced decision
- Act: Implement and monitor



# **Anchoring Bias/Effect**

**Tendency to rely too heavily on the first  
piece of information**

**White Hat (Facts)**

**Red Hat (Emotions)**

**Black Hat (Caution)**

**Yellow Hat (Benefits )**

**Green Hat (Creativity)**

**Blue Hat (Process)**

**(Edward de Bono)**

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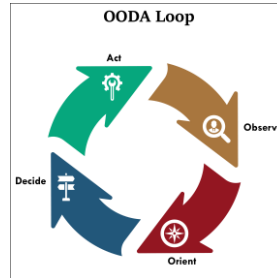
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# Dunning-Kruger Effect/Bias

**Cognitive bias where people with  
limited knowledge or competence  
greatly overestimate them**

**Widen Options  
Reality-test assumptions  
Attain Distance  
Prepare to be Wrong  
(Chip and Dan Heath)**

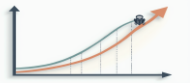
# Dunning-Kruger Effect/Bias

Definition: The Dunning-Kruger effect is a cognitive bias where people with limited knowledge or competence in a given domain greatly overestimate their own knowledge or competence.

Pete's AI Implementation Example:

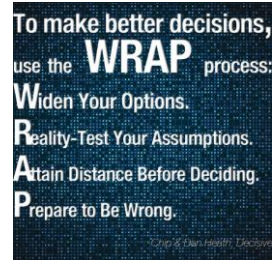
- Pete, with limited AI knowledge, confidently leads an AI-powered analytics system implementation.
- He underestimates the project's complexity and dismisses suggestions to bring in external experts.
- Pete makes decisions about AI models and data processing without fully understanding the implications.

Consequences include poor decision-making, project mismanagement, and potential financial losses due to an inadequate AI implementation.



WRAP Framework (Chip and Dan Heath):

- Widen Options: Consider alternatives like partnering with an AI firm or starting with a smaller pilot project.
- Reality-test Assumptions: Validate Pete's understanding of AI through expert consultation and case studies.
- Attain Distance: Step back to see how this AI project fits into the company's long-term strategy and capabilities.
- Prepare to be Wrong: Develop contingency plans and be open to course corrections during the project.





# 1-2-4-All



# Mitigation Strategies

**Actively seek diverse viewpoints**

**Use structured decision-making frameworks**

**Recognize knowledge limits**

**Implement peer reviews**

**Use data and metrics**

**Practice metacognition**

# Mitigation Strategies

- Actively seek diverse viewpoints: Encourage devil's advocates and create a culture where challenging ideas is welcomed.
- Use structured decision-making frameworks: Implement OODA, Six Thinking Hats, or WRAP in your decision processes.
- Recognize knowledge limits: Be humble about what you know and don't know. Seek expert input when needed.
- Foster continuous learning: Encourage ongoing education and skill development in your team.
- Implement peer reviews: Establish a culture of peer review for code, designs, and project plans.
- Use data and metrics: Base decisions on objective data rather than gut feelings or initial impressions.
- Practice metacognition: Regularly reflect on your thinking processes and decision-making patterns.

**5-15%**  
**(7%?)**

Small steps, small wins

**Q/A?**

# THANK YOU!

