@Kerjacerdias:
Growth Beyond Mindset

Mastering Critical Thinking for Future-Proofing Your Career

Webinar Session

Jakarta, 30 Aug 2025

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irvandiassanjaya irvandiassanjaya@gmail.com / kerjacerdias@gmail.com Irvandias Sanjaya LYNK irvandiassanjaya Kerjacerdias

Professional Profile

- Experienced **People Development Professional** with 7+ years in **talent management, career consulting, coaching, and training**.
- Accumulated **550+ hours of coaching, training, and consulting experience**, assisting **250+ brands** across academic, business, government, community, and media sectors.
- **Coach Specialist** at **RevoU, Rumah Siap Kerja (ex), and several reputable brands**, conducting 750+ coaching sessions with a consistent **4.9/5 feedback rating**.
- **Public Speaker & Facilitator for 100+** career development, employability, and personal growth webinars/workshops, reaching **over 50,000 participants**.
- Recognized as **LinkedIn Power Profile 2018**.
- **Certified in Coaching, Public Speaking, and Training**, with **awards from Temasek Foundation, Ashoka, U.S. Department of State, Asia Foundation, etc**.

Irvandias Sanjaya, S.Psi., CPC., CPS.

Founder at Kerja Cer-Dias I Coach I Trainer I Consultant I Sportscaster I Content Creator @Kerjacerdias

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Be Ready For The Session

To obtain an optimum learning result, let's follow these ground rules!

Raise Hand if there's **concern/questions** along the way

Actively participate throughout the session (**reciprocal approach**)

Focused during session to ensure the learning journey landed in safe and sound experience

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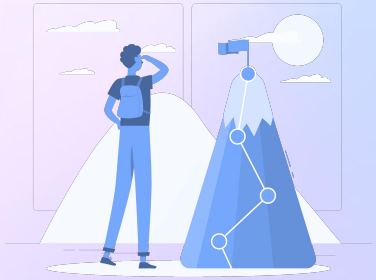
Discussed Topics on

Critical Thinking & Problem Solving



Critical Thinking 101

Example of Bias Cognitive

Various kinds of errors in thinking

Critical Thinking Framework

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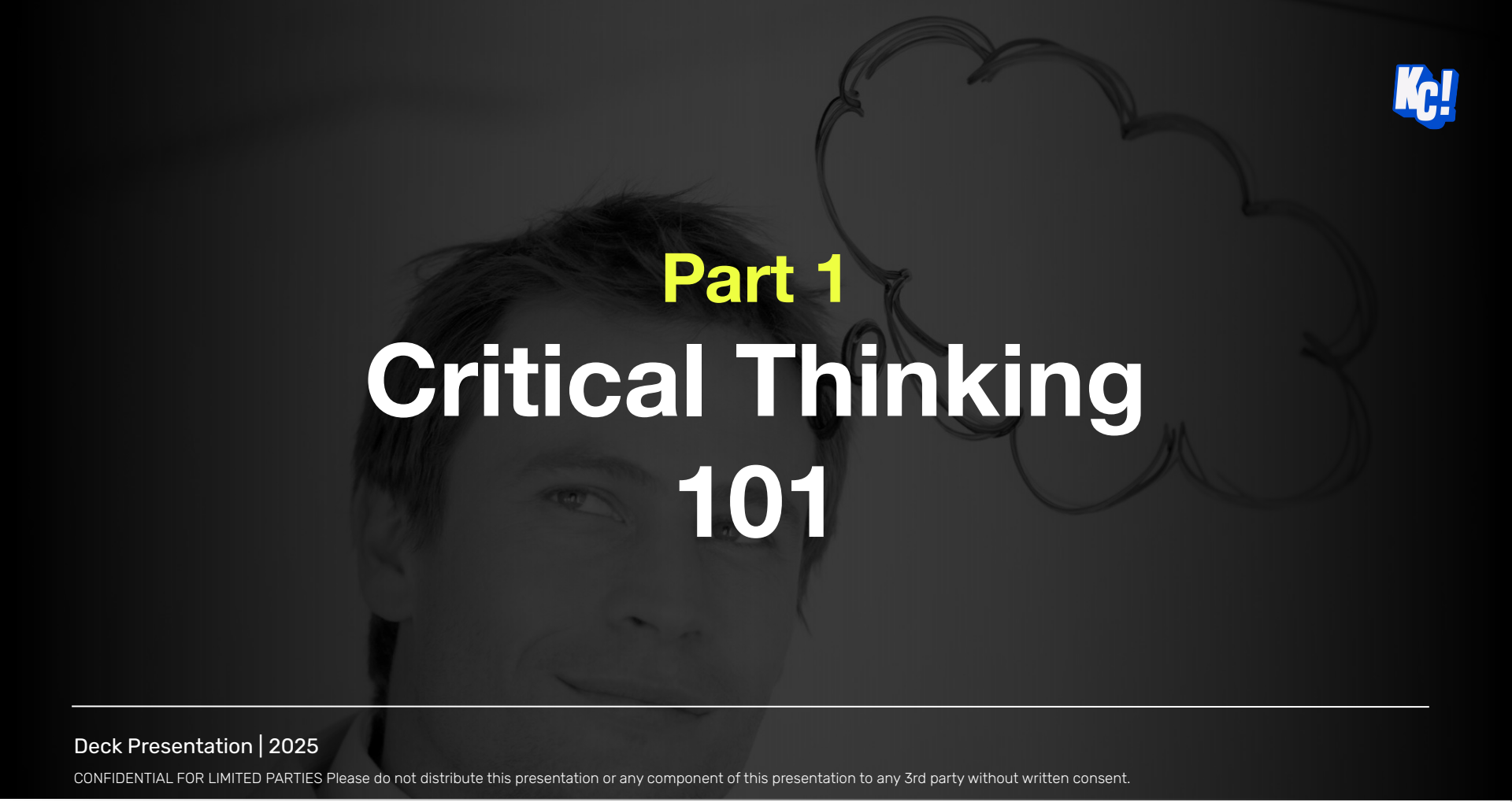

Part 1

Critical Thinking 101

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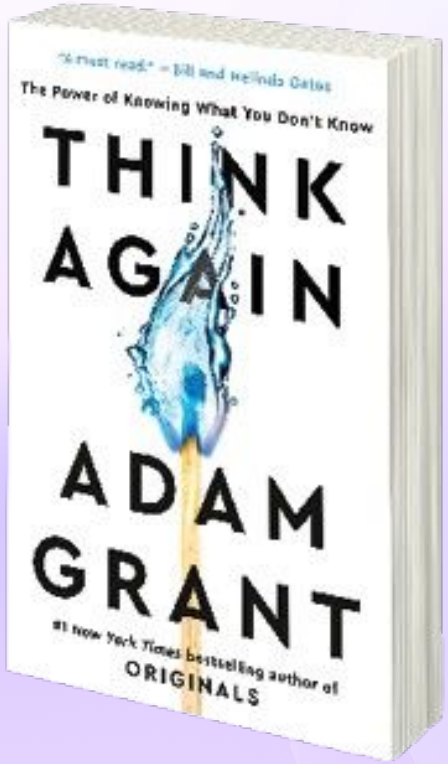

Cognitive Laziness

*We favor the **comfort of belief** over the discomfort of doubt, and we let our beliefs get fragile long before our bones. We are afraid of rethinking answers and the idea of rethinking.*

Adam Granit

On his book "*Think Again*"

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Interactive

Can anyone explain…

“What’s your one word while hearing **the critical thinking term**?”

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Critical Thinking

Thinking Like a Scientist

Critical thinking has been described as an ability to question; to acknowledge and test previously held assumptions; in order to **recognize ambiguity**; to examine, interpret, evaluate, reason, and reflect; to make informed judgments and decisions; and to clarify, articulate, and justify positions. https://louisville.edu/ideastoaction/about/criticalthinking/what

> Critical thinking is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action.
> https://louisville.edu/ideastoaction/about/criticalthinking/what

Critical thinking is not a set of skills that can be deployed at any time, in any context. It is a type of thought that even 3-year-olds can engage in—and even trained scientists can fail in.

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Interactive

Can anyone explain…

“On a scale of **0-10**, how easy/difficult do we implement critical thinking?”

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Seems Familiar?

Critical Thinking: Why Is It So Hard to Teach?

https://www.seedpaknwboces.org/pd-resources/critical-thinking-why-it-so-hard-teach

NimblyWise Why Is Critical Thinking Difficult To Teach?

https://nimblywise.com/blog/why-is-critical-thinking-difficult-to-teach/

Old habits die hard: why teachers in Indonesia still struggle to teach critical thinking THE CONVERSATION

https://theconversation.com/old-habits-die-hard-why-teachers-in-indonesia-still-struggle-to-teach-critical-thinking-197459

THINGS EDUCATION

Why is critical thinking so hard?

IHE Inside Higher Ed

Failing to Improve Critical Thinking

https://www.insidehighered.com/views/2016/11/29/roadblocks-better-critical-thinking-skills-are-embedded-college-experience-essay

Reading Rockets Launching Young Readers

Critical Thinking: Why Is It So Hard to Teach?

By: Daniel Willingham

https://www.readingrockets.org/topics/comprehension/articles/critical-thinking-why-it-so-hard-teach

Critical Thinking Skills: Why They Are So Difficult To Acquire PSYBLOG

https://www.spring.org.uk/2023/01/critical-thinking.php

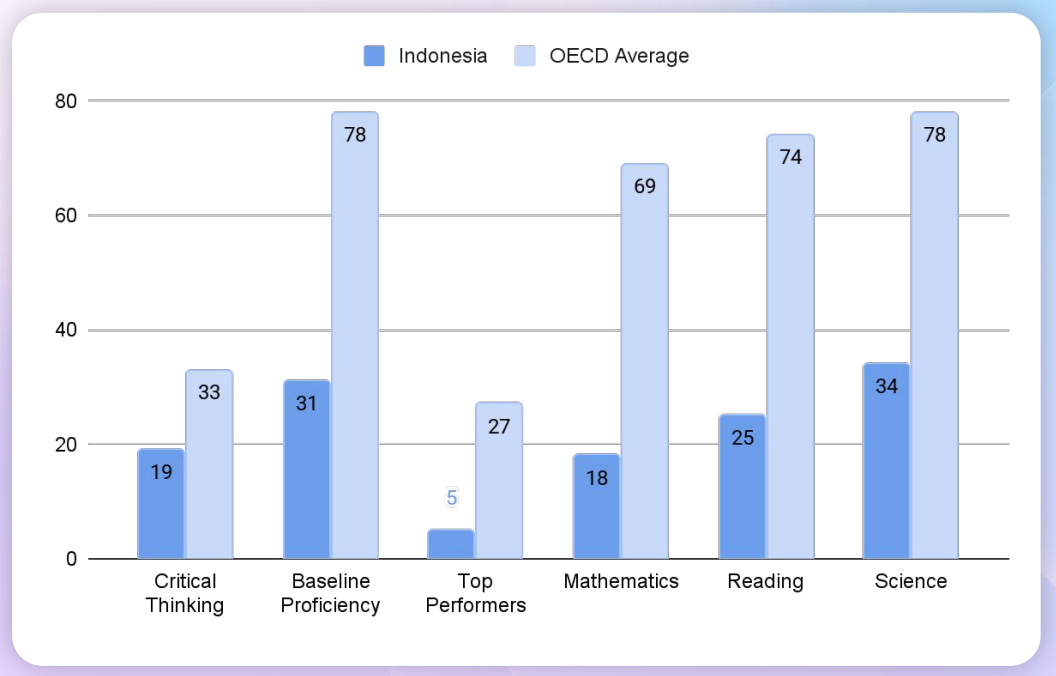
Why is critical thinking difficult?

https://endoxalearning.com/blog/critical_thinking/criticalthinking2/

Critical Thinking: Too Hot to Handle?

The Skills Gap Challenge

PISA 2022 Results: Indonesia vs OECD (Global) Average



Critical Thinking Gap

-14 points

Indonesia scored 19 vs OECD 33

Baseline Proficiency Gap

-47 points

Only 31% of Indonesian students reached baseline vs 78% OECD

Top Performers Gap

-22 points

Only 5% of Indonesian students are top performers vs 27% OECD

Baseline Proficiency
the minimum level of competency that students should ideally attain by the end of secondary education (JHS)

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Current State in Indonesian Schools

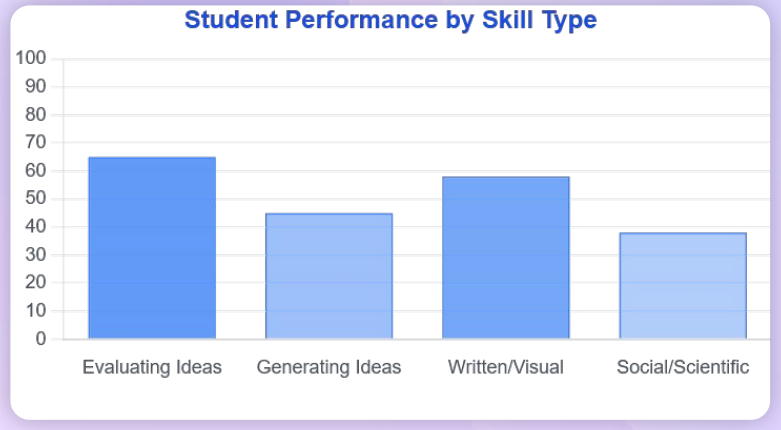
Key Findings from PISA 2022 on Critical Thinking

Better at **evaluating ideas** than generating diverse ones

Higher proficiency in **written & visual** expression

Smaller socioeconomic gap (5.9 vs 9.5 OECD of 100)

Smaller gender gap (1.4 vs 2.7 OECD of 100)



81%
Believe creativity is possible in any subject

68%
Have a "fixed mindset" about their own creativity

86%
Report teachers give enough time for creative solutions

90%
Say their teachers value student creativity

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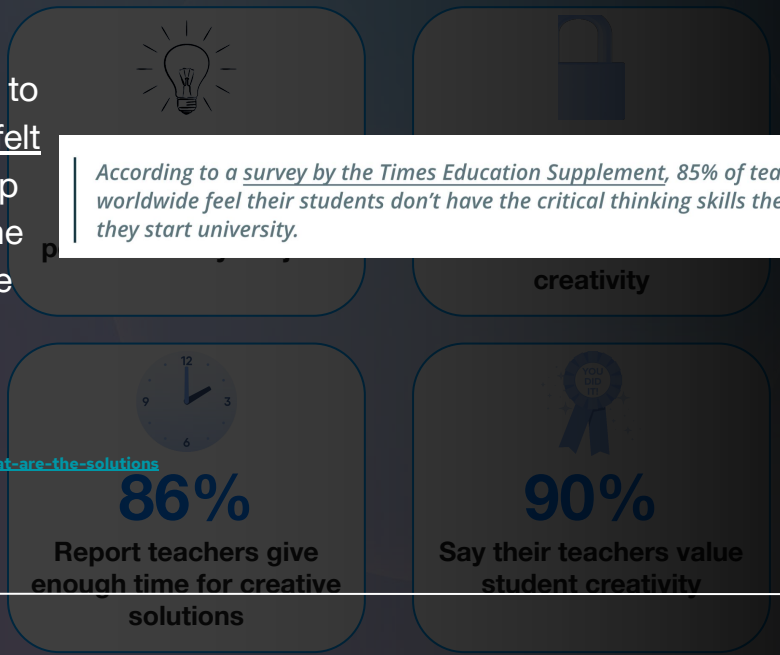
Supporting Research

Educator Perspective

UNIVERSITY OF CAMBRIDGE conducted a survey that found that whilst **93% of teachers agreed** that it's imperative to develop students' critical thinking skills, only 21% felt that they have all the materials they need to develop these skills. As critical thinking quickly becomes one of the most necessary assets for school leavers, we look at why it is so important and how we can help students become better critical thinkers.

https://www.the-critical-thinkers.com/post/why-is-critical-thinking-so-difficult-to-teach-and-what-are-the-solutions

> *According to a survey by the Times Education Supplement, 85% of teachers worldwide feel their students don't have the critical thinking skills they need when they start university.*



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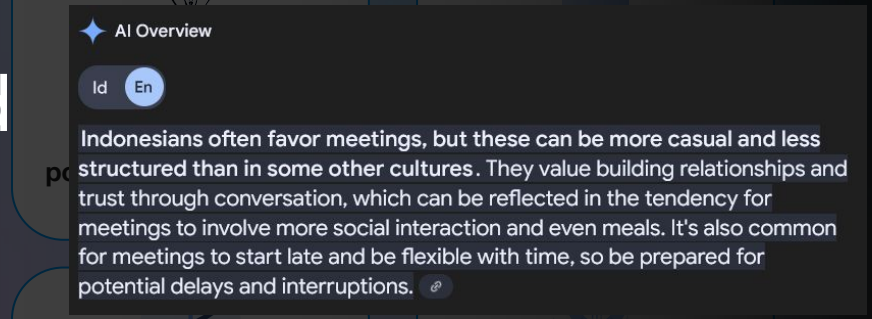
Supporting Research

Foreign Media Perspective

Foreign media thinks Indonesia likes to held forums and summit



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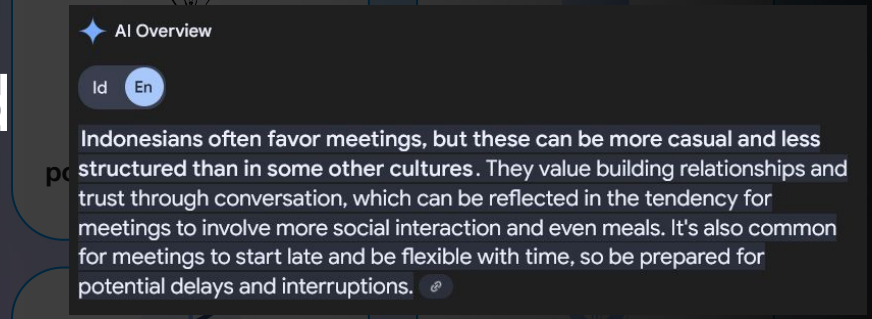

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The Economic Imperative

Why Critical Thinking Skills are Crucial for Indonesia's Economy

Economic Transition

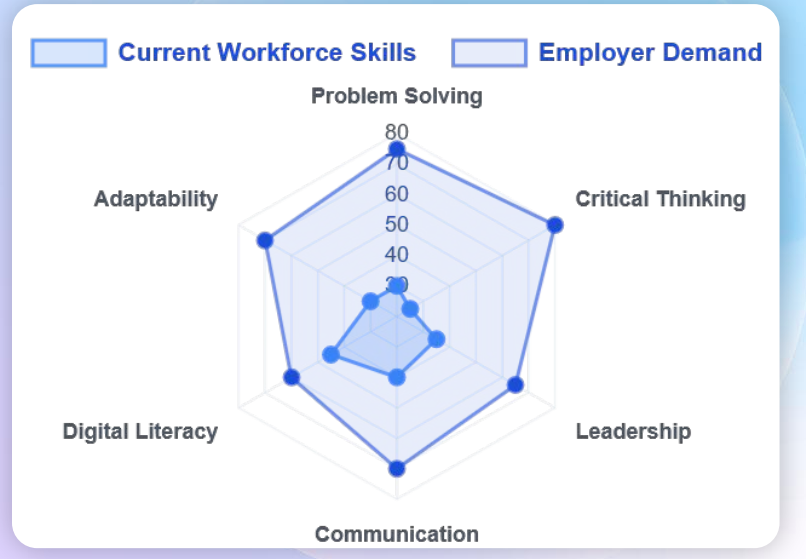
Moving from resource-dependent to knowledge-based economy (from labor intensive to capital intensive)

Workplace Demands

Modern employers need: complex problem-solving, leadership, critical thinking, communication

Skills Mismatch

Large gap between skills demanded by employers and those possessed by workforce



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Top Soft Skills 2025

- Communication Skills
- Adaptability and Resilience
- Problem-Solving and Critical Thinking
- Emotional Intelligence and Empathy
- Teamwork and Collaboration
- Leadership Skills
- Creativity and Innovation
- Continuous Learning and Growth Mindset
- Interpersonal Skills
- Ethical Judgment and Integrity

Sources:
Future of Jobs Report 2025 + Robert Half Technology's 2024 IT Salary Report + other sources

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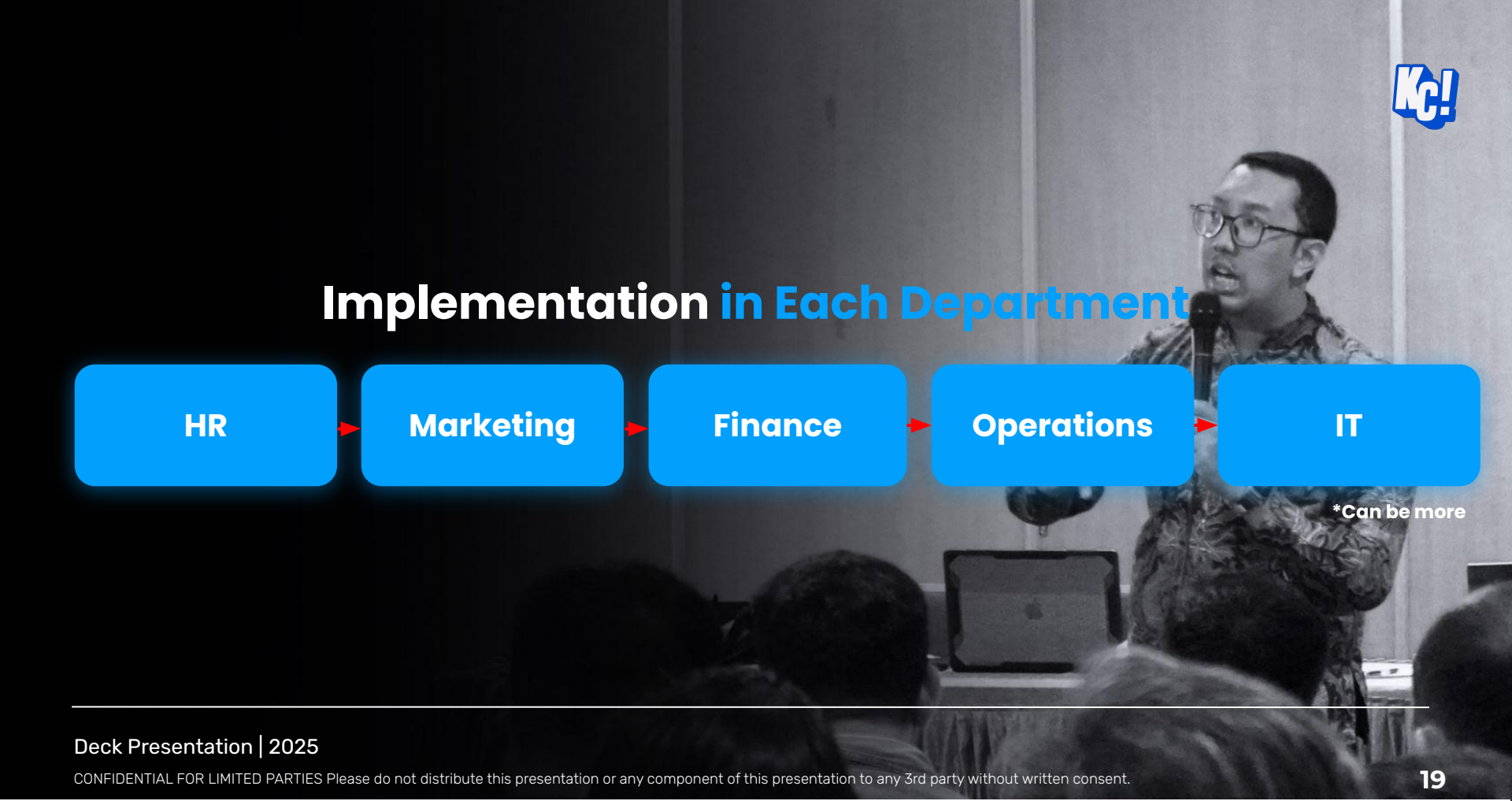
Implementation in Each Department

HR → Marketing → Finance → Operations → IT

*Can be more



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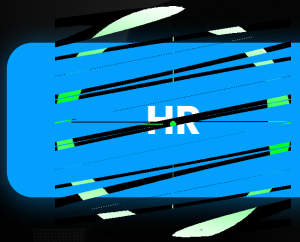
Implementation in Each Department



HR → Marketing → Finance → Operations → IT

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Critical Thinking in HR

HR professionals use critical thinking to make **reflective, unbiased decisions** that impact organizational culture and talent management.

Questioning Assumptions

Challenging "always been done this way" thinking in hiring processes and policy development

Discerning Relevant Data

Separating useful information from noise when analyzing skill gaps and employee performance

Encouraging Alternative Views

Creating culture of open debate and diverse perspectives in policy development

Taking Time to Decide

Avoiding hasty decisions on important matters that impact the entire organization

Avoiding Assumptions

Asking key questions to verify facts before drawing conclusions in conflict resolution

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Implementation in Each Department

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Critical Thinking in Marketing

Marketers use critical thinking to make **informed decisions** that drive campaign effectiveness and business growth.

Challenging Measurement

Moving beyond last-click attribution to more comprehensive measurement methodologies

Asking Right Questions

Questioning assumptions when stakes are high for strategic marketing decisions

Getting Outside the Bubble

Seeking diverse perspectives to avoid narrow worldview and echo chambers

Reasoning Through Logic

Avoiding fallacies like "post hoc" thinking when analyzing campaign results

Active Discussion

Engaging with diverse stakeholders regardless of status or position

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Implementation in Each Department

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Critical Thinking in Finance

Finance professionals use critical thinking to navigate **complex financial landscapes** and make data-driven decisions.

Enhancing Analytics

Interpreting financial data beyond face value to identify trends and anomalies

Risk Assessment

Evaluating various scenarios and potential outcomes to create contingency plans

Decision-Making

Incorporating both quantitative analysis and qualitative insights for robust planning

Problem-Solving

Breaking down complex challenges like optimizing cash flow and restructuring debt

Cost-Efficiency

Re-evaluating supplier contracts and streamlining operations to reduce waste

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Implementation in Each Department

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Critical Thinking in Operations/Supply Chain

Operations professionals use critical thinking to **optimize processes** and build resilient supply chains.

Data Analysis

Identifying trends and patterns to optimize inventory management and logistics

Risk Management

Identifying and assessing potential disruptions to develop mitigation strategies

Problem Definition

Breaking down complex operational challenges into manageable components

Collaboration

Establishing cross-functional teams to share information and coordinate activities

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Implementation in Each Department

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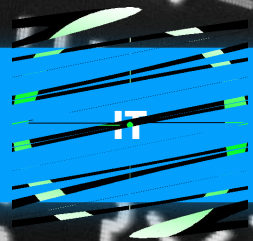

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Critical Thinking in IT

IT professionals use critical thinking to solve **complex technical challenges** and make strategic technology decisions.

Complex Problem-Solving

Identifying root causes rather than just symptoms of system issues

Cybersecurity Assessment

Testing vulnerabilities and predicting threats to protect systems

Technology Evaluation

Distinguishing industry hype from real value when adopting new solutions

Cross-Functional Communication

Bridging technical and non-technical viewpoints for better collaboration

Ethical Decision-Making

Analyzing implications of technology choices on privacy and security

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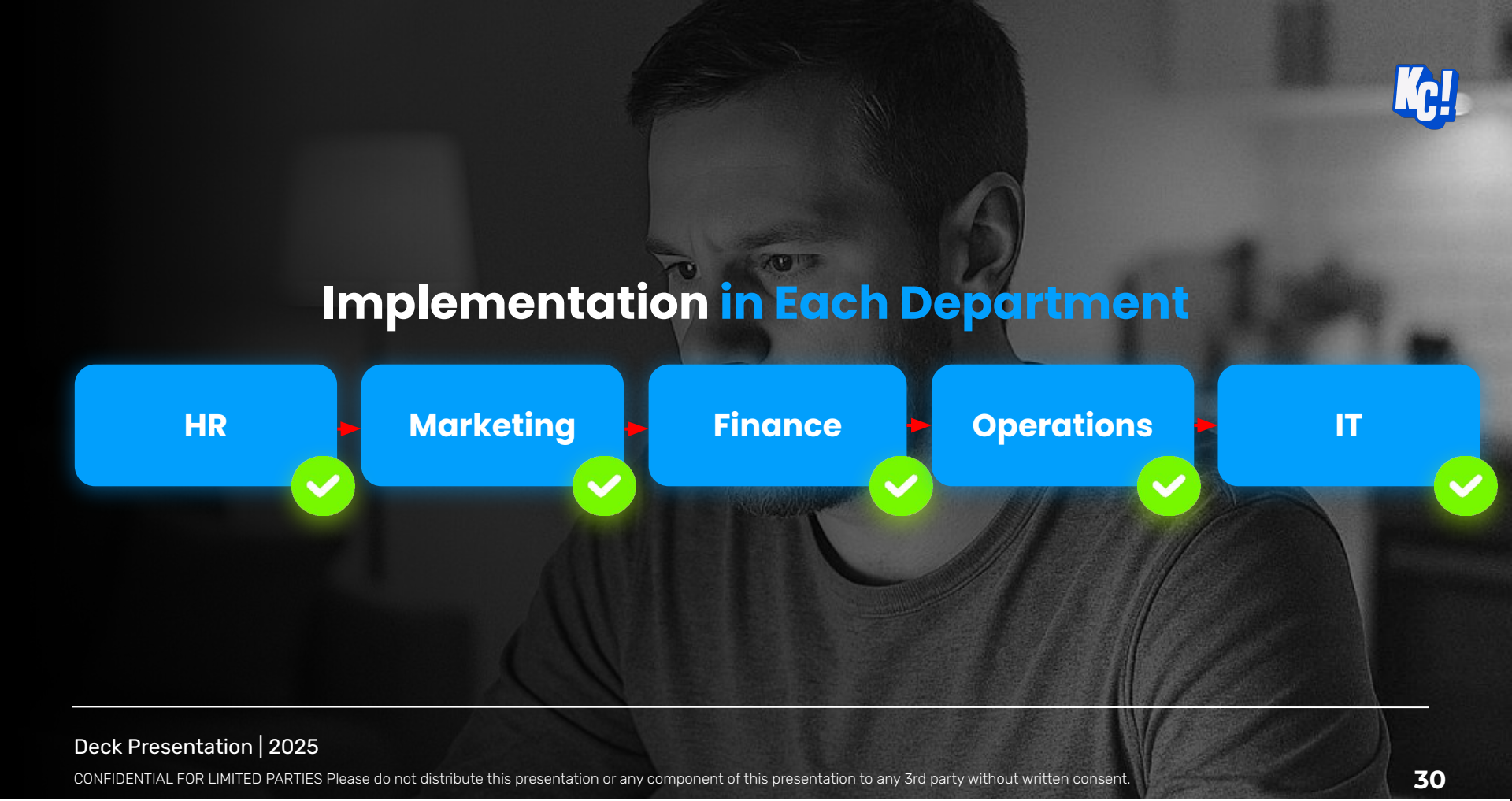

Implementation in Each Department

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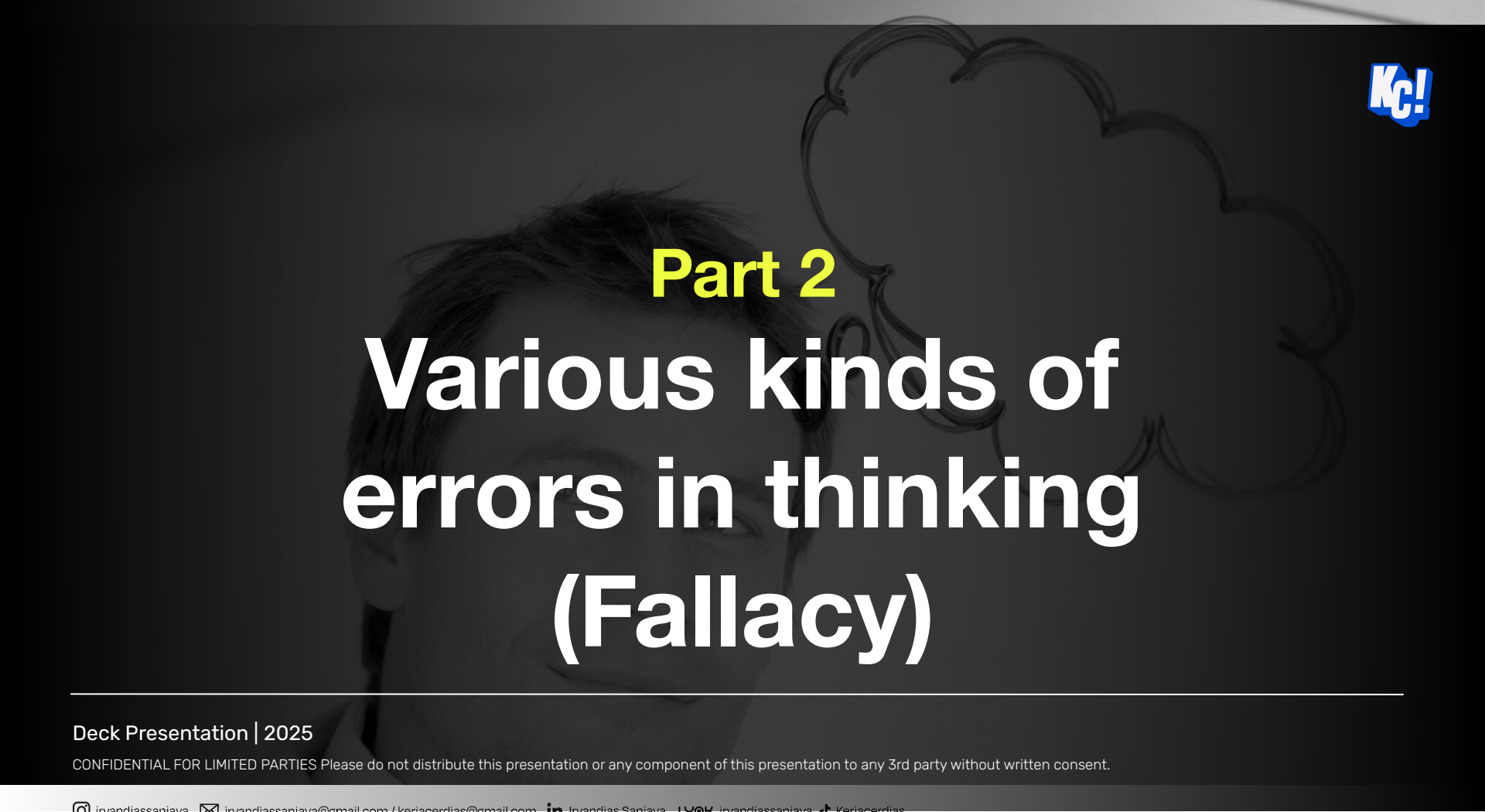

Part 2

Various kinds of errors in thinking (Fallacy)

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Interactive

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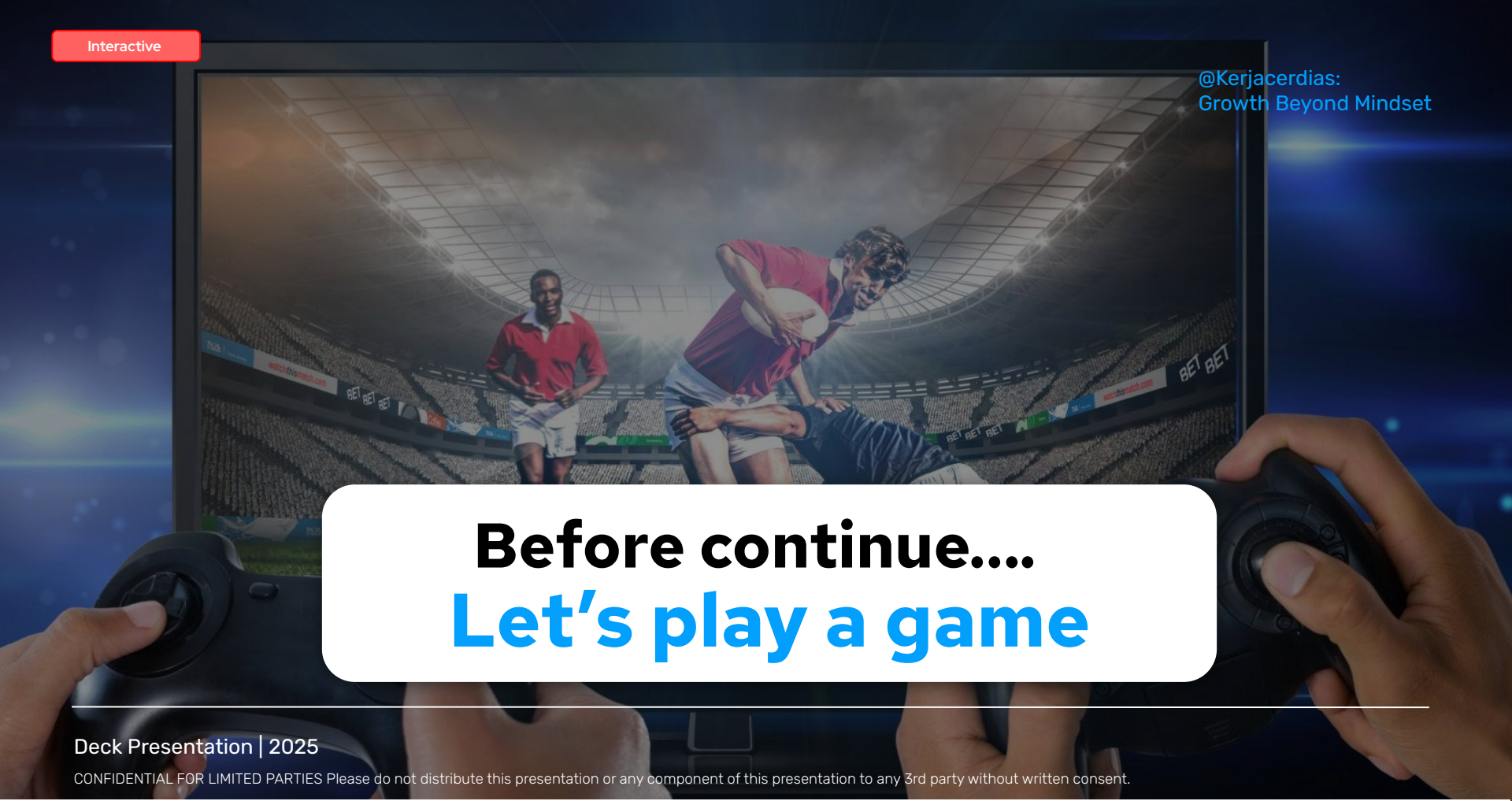

Before continue....
Let’s play a game

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What Happen if you **Shake** this bottle?

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It Explodes!

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Interactive

And how about this?

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It stays **calm**

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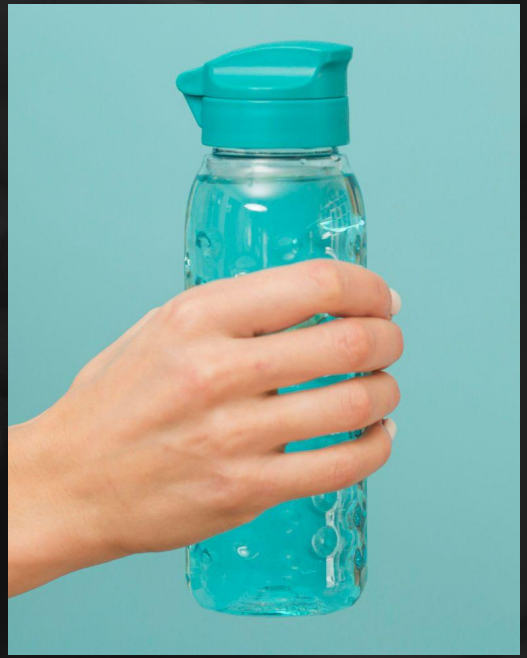
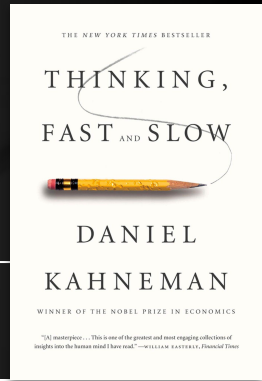
Level 1: Fast & Reactive

Level 2: Calm & Responsive





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Level 1: Fast & Reactive

Example

Put the hands away when accidentally touching fire

Running away when meet an aggressive dog

Getting defensive instantly when someone criticizes you

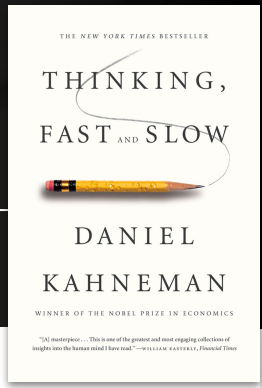
Level 2: Calm & Responsive

Example

Thinking about the career path you want to pursue

Thinking about a job position that might be aligned with your background & passion

Choosing industry you want to pursue & aligned with your personality



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Level 1:
Fast & Reactive

Example

Put the hands away when accidentally touching fire

Running away when meet an aggressive dog

Getting defensive instantly when someone criticizes you

Level 2:
Calm & Responsive

Example

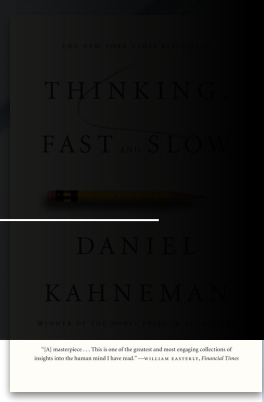
Thinking about the career path you want to pursue

Thinking about a job position that ... with your background & passion

Choosing industry you want to pursue & aligned with your personality

Critical thinking is level 2 of thinking

Level 1 is more into survivability



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Being **Reactive** ❌

Being **Calm & Responsive** ✅

*especially when goes into the important decision making

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Interactive

What’s differences between them?

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Proactive vs Reactive

Act based on values, not moods or external circumstances.	Are often affected by their **physical environment** or **emotions**.
Recognize their freedom to choose their response.	Let external events dictate their mood and actions.
Focus on things they can **control or influence** (Circle of Influence).	Focus on things **outside their control** (Circle of Concern).
Example: “I can... I will... Let’s look at alternatives.”	Example: “There’s nothing I can do... That’s just the way I am... They make me so mad.”

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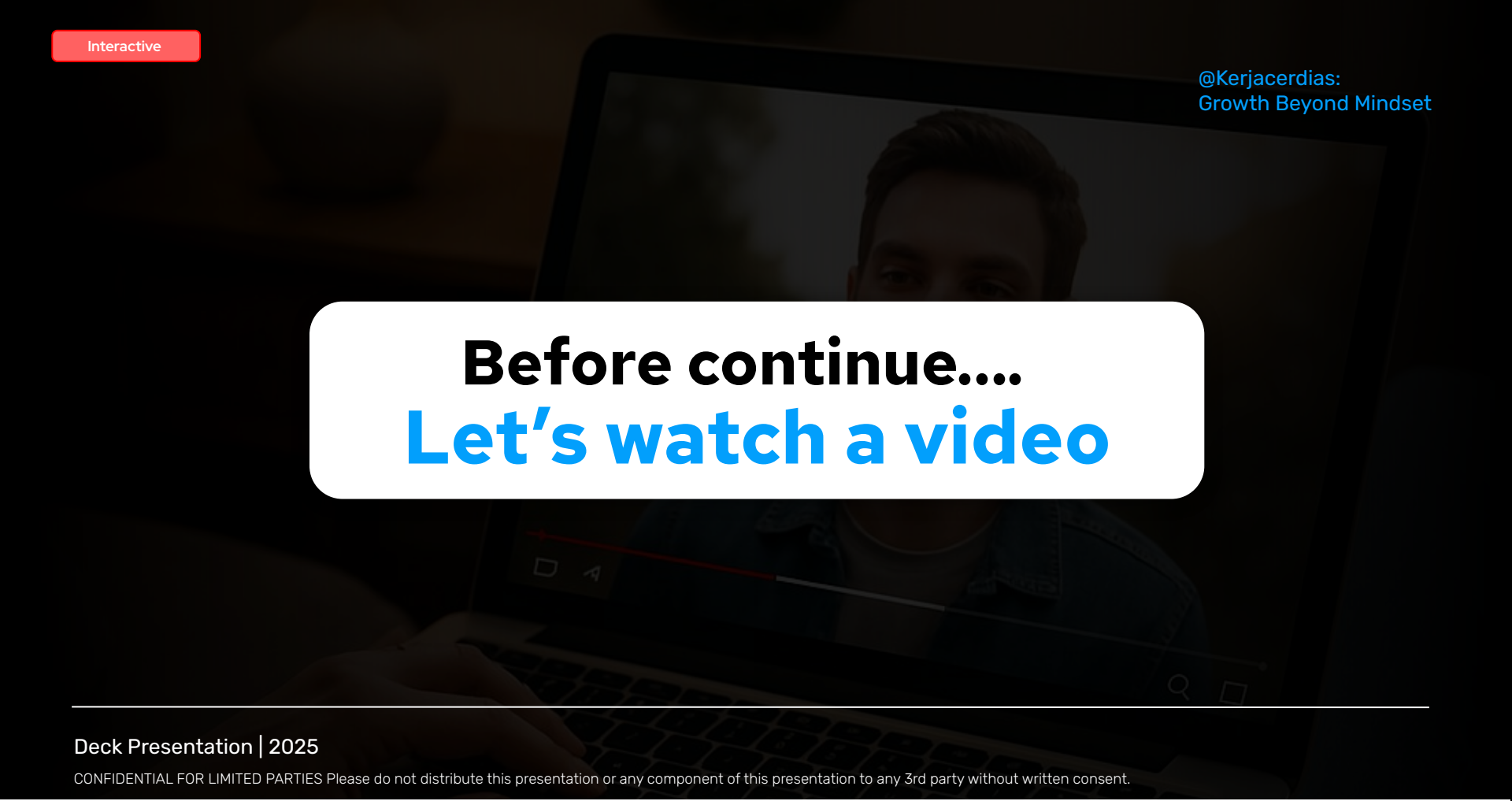

Before continue....
Let’s watch a video

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Let’s take a look at this video

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Interactive

Can anyone explain...

“What have you **learned** from the video?”

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Descriptive vs. Prescriptive (1)

Aspect	Descriptive	Prescriptive
Core Focus	Describes what is/has happened (facts, data, reality)	Prescribes what should be done (actions, solutions, rules)
Purpose	Understand reality, identify patterns, or diagnose issues.	Guide decisions, optimize outcomes, or enforce standards.
Methodology	Observes, measures, and reports data objectively.	Recommends strategies based on goals, constraints, and analysis.
Key Questions	*“What happened? How often? What are the trends?”*	*“What should we do? What’s the best solution?”*

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Descriptive vs. Prescriptive (2)

Aspect	Descriptive	Prescriptive
Output	Reports, dashboards, summaries of current/past states.	Action plans, policies, guidelines, or optimized strategies.
Bias Handling	Neutral (aims for accuracy in reporting).	May involve subjectivity (judgment calls on "best" paths).
Example	Sea water is salty	People shouldn’t drink sea water because of the contamination

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Interactive

Can anyone explain...

“Have you heard of the term **logical fallacy**?”

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Logical Fallacy

A fallacy is, very generally, an error in reasoning. Which is simply being wrong about the facts. To be more specific, a fallacy is an “argument” in which the premises given for the conclusion do not provide the needed degree of support.

Formal Fallacy are arguments that have invalid structure, form, or context error

Informal Fallacy are arguments that have incorrect or irrelevant premises

https://blog.hubspot.com/marketing/common-logical-fallacies

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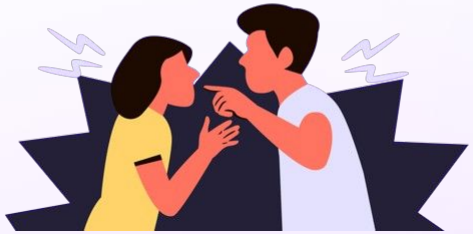

Common Logical Fallacies

- Amongst the 42 types of logical fallacies, as written by Michael C. Labossiere, there are the top **7 ones** that often occur.

- Ad Hominem
- Hasty Generalization
- Peer Pressure
- Appeal to Fear
- Sunk Cost Fallacy
- Nirvana Fallacy
- Appeal to pity

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Ad Hominem

ad Hominem Abusive, Personal Attack.

- An *ad Hominem* is a general category of fallacies in which a claim or argument is rejected on the basis of some irrelevant fact about **the author of or the person presenting the claim or argument**.
- Scenario
  1. Person A makes claim X.
  2. Person B makes an attack on person A.
  3. Therefore A's claim is false.

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Appeal to Pity

Ad Misericordiam

- An Appeal to Pity is a fallacy in which a **person substitutes a claim intended to create pity for evidence in an argument.**.
- Scenario
  1. I know I should have been on time for the interview, but I woke up late and felt really bad about it, then the stress of being late made it hard to concentrate on driving here.

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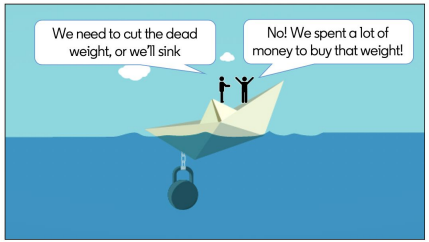
Sunk Cost Fallacy



Concorde Fallacy

- With the Concorde Fallacy, the arguer justifies their decision to **continue a specific course of action by the amount of time or money they've already spent on it**.
- Scenario
  1. I don't feel enjoy taking relationship with my partner after several abuses I've experienced with him, but it will be too much to lose if we break up, considering we've been dating for 5 years.

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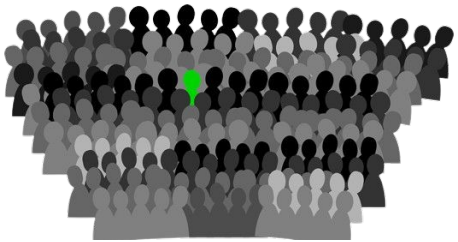
Hasty Generalization



Fallacy of Insufficient Statistics

- This fallacy is committed when a **person draws a conclusion about a population** based on a sample **that is not large enough.**
- Scenario
  1. Sample S, which is too small, is taken from population P.
  2. Conclusion C is drawn about Population P based on S.

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Appeal to Fear

Fear Mongering

- The fallacy falls in the making a **thinking in a way that scares people to believe**
- Scenario
  1. Press “Like” on this status if you don’t want to experience any disastrous circumstances happening in your life.

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Peer Pressure

- A fallacy in which a **threat of rejection by one's peers (or peer pressure) is substituted for evidence in an "argument."**
- Scenario

  A: In today's market, phone brands are making competitive advantages for user to choose; I'm considering to buy "X" brand.

  B: You're correct, but all of our members are using "Y" brand.

  A: Alright, I'll buy "Y" brand instead.

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MOST RECENTLY POPULAR:
Nirvana fallacy

- A fallacy in which a realistic solution or **practical option is rejected because it is imperfect or doesn't achieve an ideal outcome**, while ignoring that the alternative (often the status quo) is worse or that the "perfect" solution is unattainable.
- Scenario

  A: "Our city's air pollution is getting worse. Implementing these new emission filters on buses could reduce particulate matter by 40%."

  B: "Why bother? 40% isn't good enough. Unless we eliminate *all* pollution immediately, it's a waste of resources. We should wait for perfect electric transport infrastructure instead."

  A: "I guess you're right. If we can't fix it completely now, maybe we shouldn't take any action."

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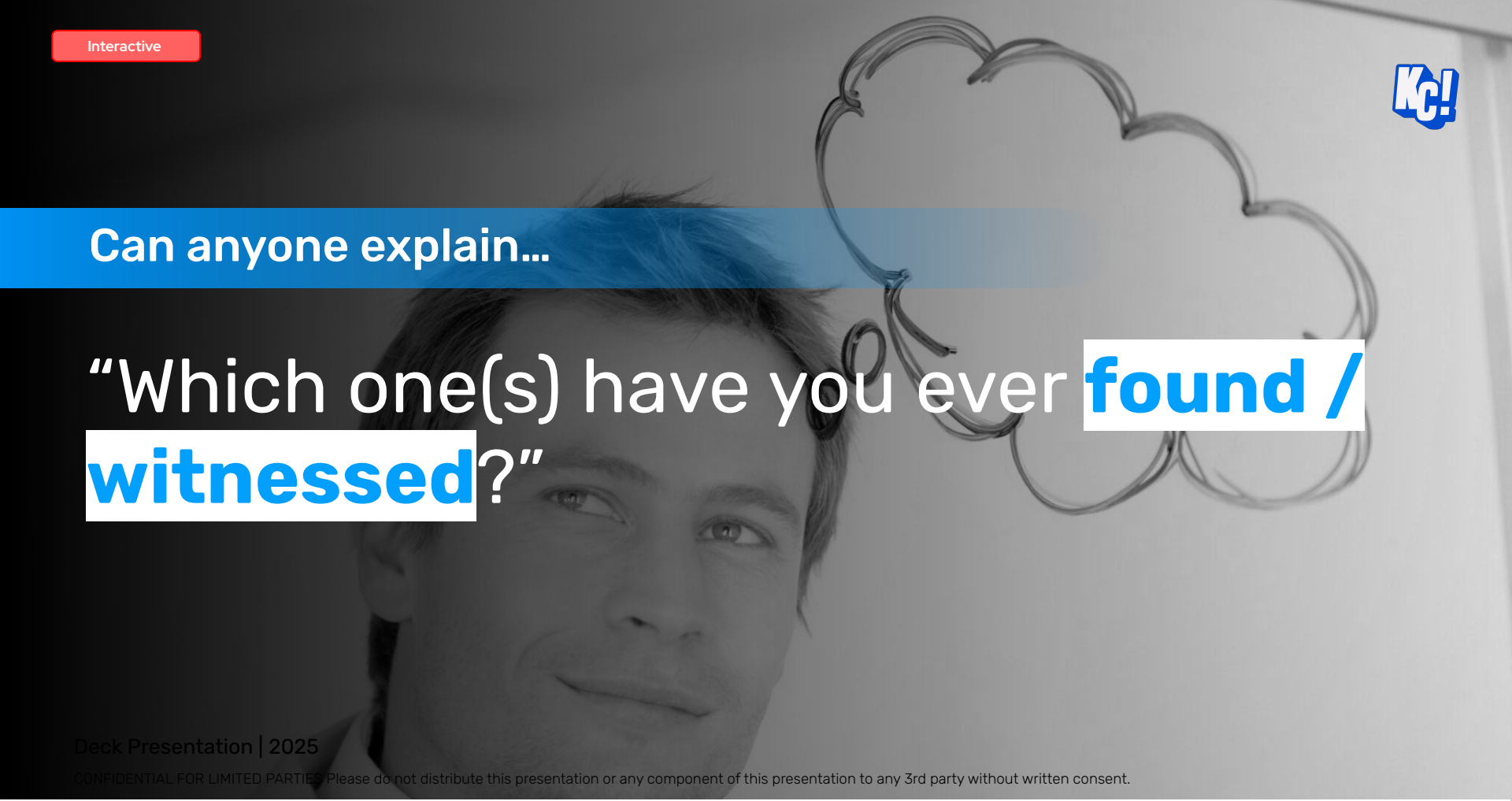
Interactive



Can anyone explain…

“Which one(s) have you ever **found / witnessed**?”

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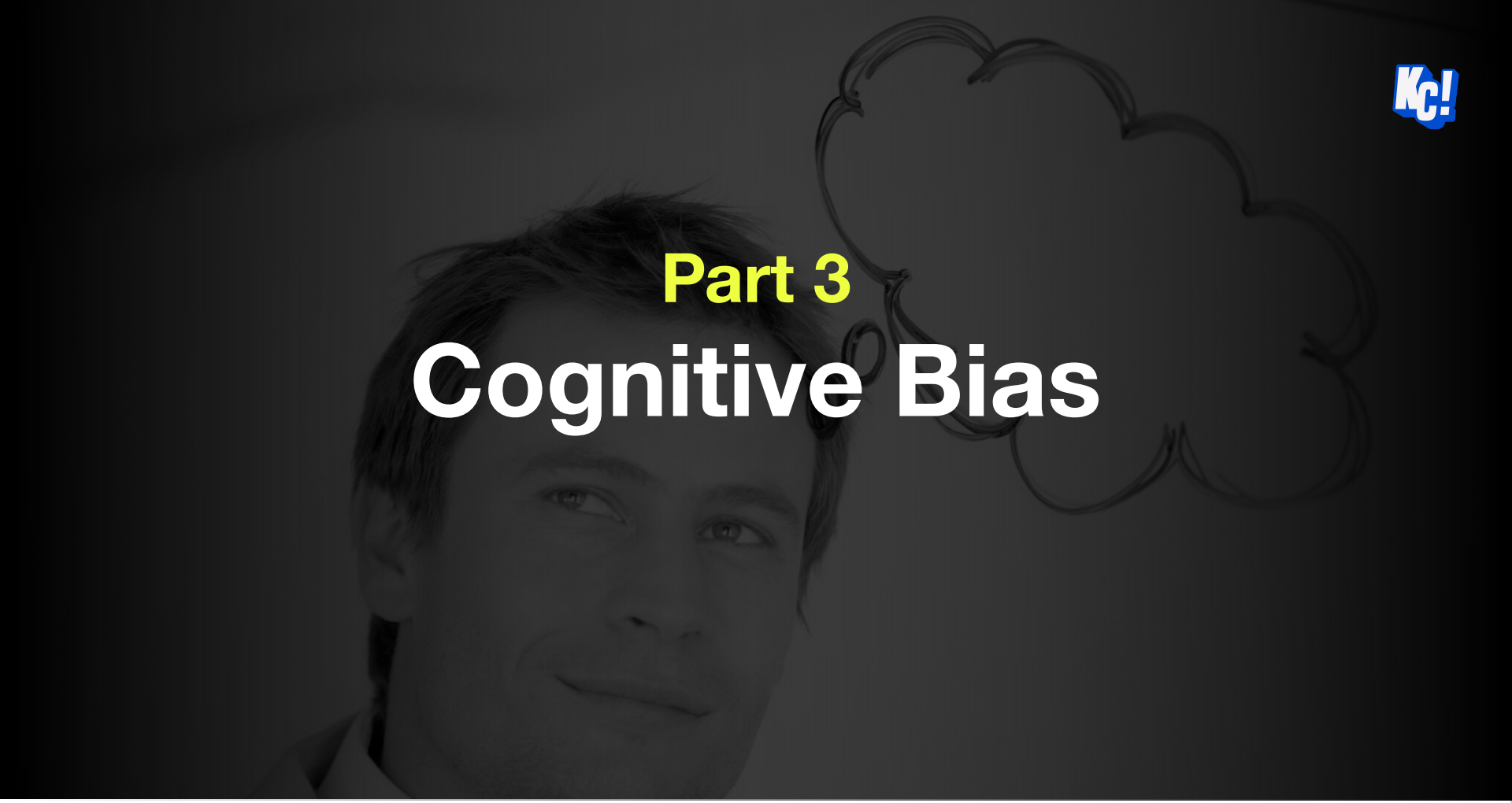

Part 3
Cognitive Bias

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Interactive

Can anyone explain...

“Have you heard of the term Cognitive Bias?”

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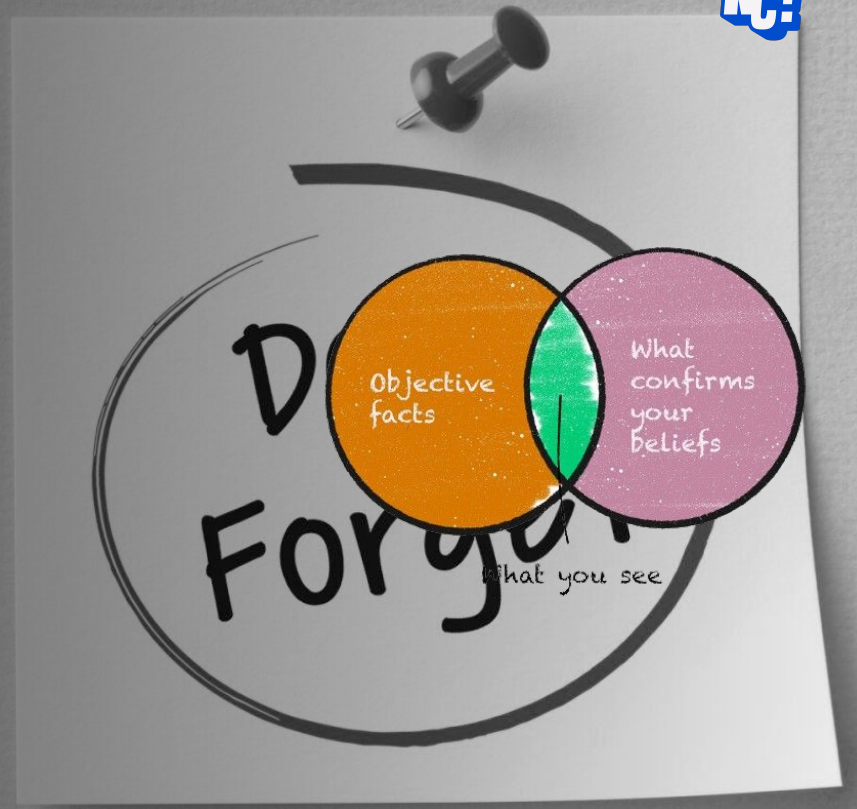
Cognitive Bias

A cognitive bias is a systematic error in thinking that occurs when people are processing and interpreting information in the world around them and affects the decisions and judgments that they make.



- **Some of these biases are related to memory.** The way you remember an event may be biased for a number of reasons and that, in turn, can lead to biased thinking and decision-making.
- **Other cognitive biases might be related to problems with attention.** Since attention is a limited resource, people have to be selective about what they pay attention to in the world around them.

Deck Presentation | 2025 https://www.verywellmind.com/what-is-a-cognitive-bias-2794963

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Cognitive Bias vs Logical Fallacy

People sometimes confuse cognitive biases with logical fallacies, but the **two are not the same**. A logical fallacy stems from an error in a logical argument, while a cognitive bias is rooted in thought processing errors often arising from problems with memory, attention, attribution, and other mental mistakes.

https://www.verywellmind.com/what-is-a-cognitive-bias-2794963

Signs of Cognitive Bias

1. Only paying attention to news stories that **confirm your opinions**.
2. Blaming **outside factors** when things don't go your way.
3. **Attributing other people's success** to luck, but taking **personal credit for your own accomplishments**.
4. Assuming that **everyone else shares your opinions or beliefs**.
5. Learning a **little about a topic** and then **assuming you know all** there is to know about it

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Example Types of Cognitive Bias

Self-reflection to our experiences alone, are we doing it unconsciously?

Anchoring Bias

This is the tendency to rely too heavily on the very first piece of information you learn.
Example:

- You learn about history-related horizons, and believe it you will think any other sources that is incorrect, perhaps not searching for comparison.

Dunning Kruger Effect

This is when people who believe that they are smarter and more capable than they really are. For example, when they can't recognize their own incompetence. Example

- A just finished his book about positive psychology. Therefore, he tends to undervalue someone's opinion about the related course

Halo Effect

Your overall impression of a person influences how you feel and think about their character. This especially applies to physical attractiveness influencing how you rate their other qualities. Example

- You met someone with suitcase walking on the street. Your thinking association will refer to him as a successful top-tire person

https://www.verywellmind.com/what-is-a-cognitive-bias-2794963

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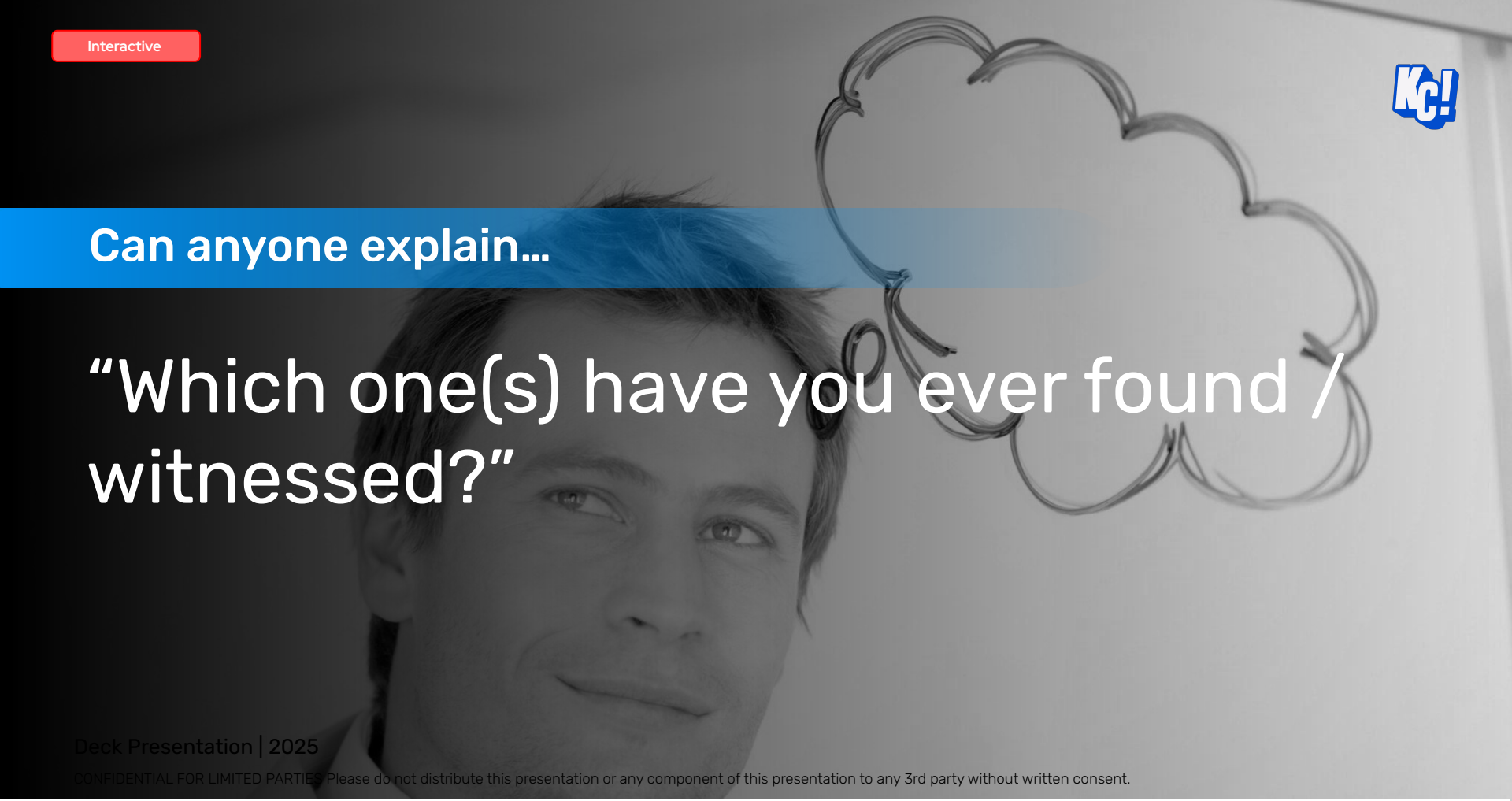
Interactive



Can anyone explain…

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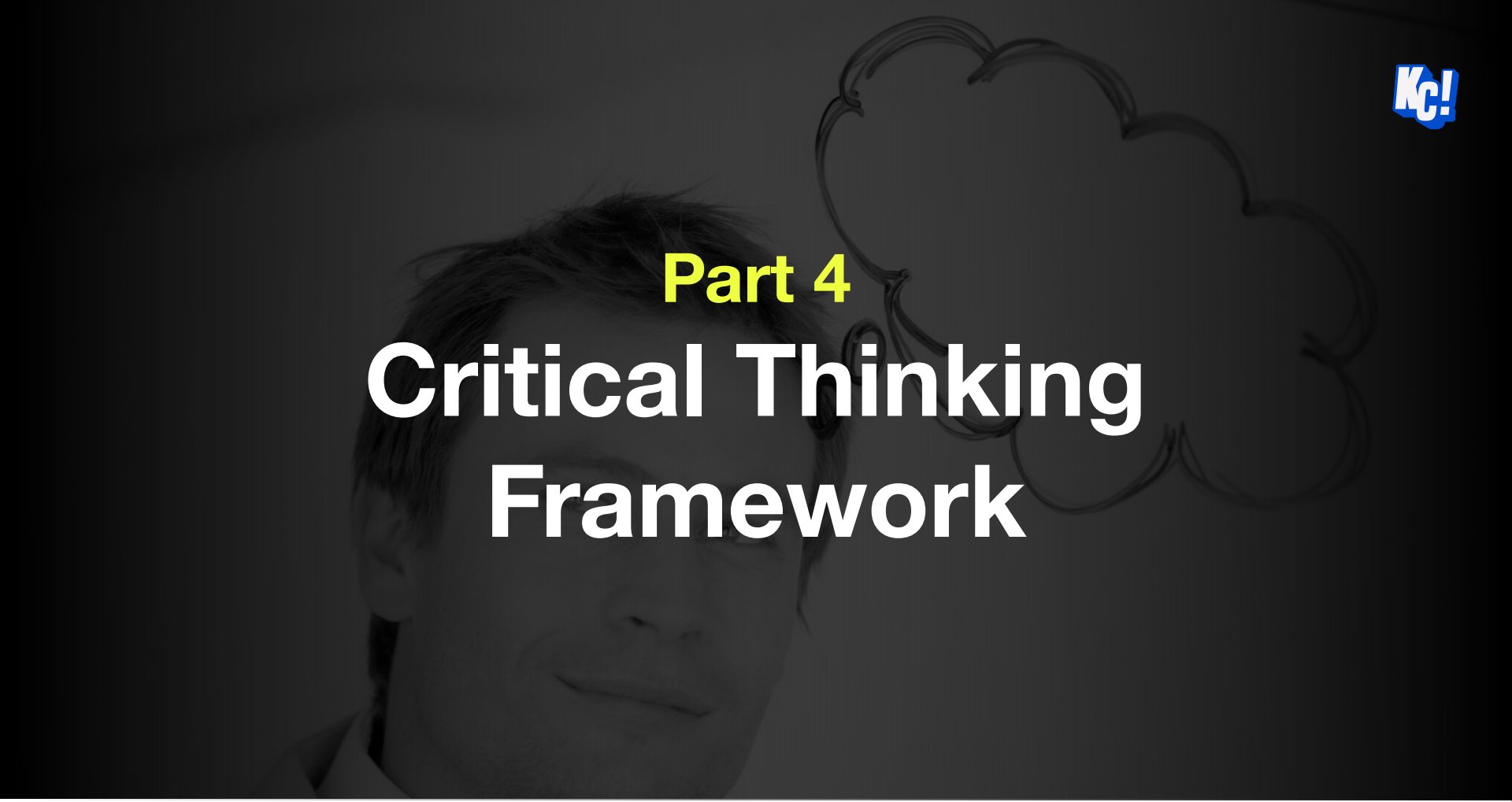
POST TRUTH

“Kebohongan yang diceritakan satu kali adalah sebuah kebohongan, tapi kebohongan yang diceritakan berulang kali akan menjadi kebenaran”

Paul Joseph Goebbels

Reich Ministry of public enlightenment and Propaganda NAZI



Part 4

Critical Thinking Framework

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Problem-solving & Critical Thinking

The capacity to analyze situations objectively, identify key issues and challenges, evaluate various options, and develop effective solutions

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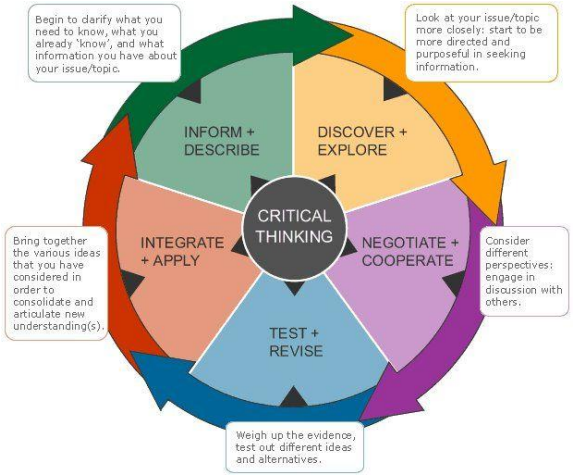
Paul-Elder Critical Thinking Model

In 2001, Paul and Elder introduced the critical thinking framework that helps students to master their thinking dimensions through identifying the thinking parts and evaluating the usage of these parts. The framework aims to improve our reasoning by identifying its different elements through three main elements;

elements of:

1. **Reasoning**
2. **Intellectual Standards**
3. **Intellectual traits.**

https://www.designorate.com/critical-thinking-paul-elder-framework/



Paul-Elder Critical Thinking Model

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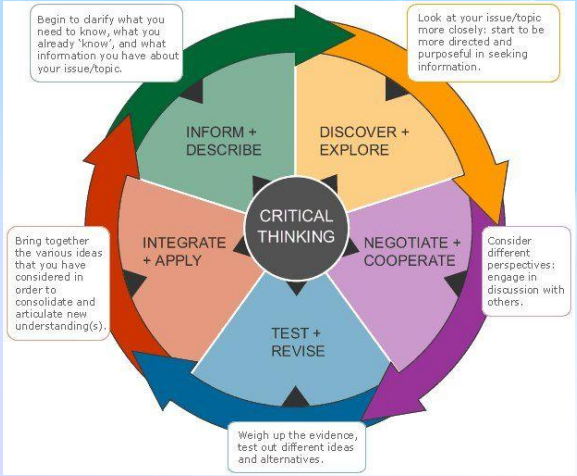
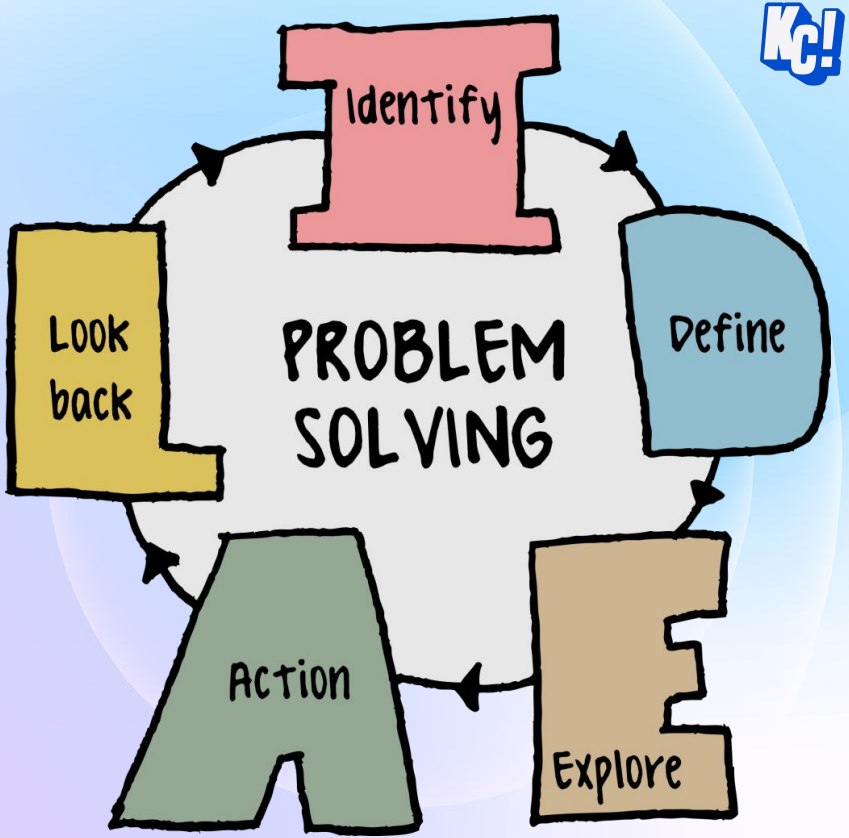


I.D.E.A.L. Method

Problem Solving Model



Adapted from:
Bransford, D. and Stein, B. (1993). The Ideal Problem Solver. Worth Publishing, 2nd edition.

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Now, let's talk about

I.D.E.A.L. in details

Breakdown	Description	Example 💪
Identify the Problem	• Spot what's the core-pressing issue, the source that made it happen.	• "I have presentation deck for next week and don't know how to do the slides structure."
Define the problem.	• Defining outcomes and goals may be a difficult step for some diverse learners. The results don't need to be complicated, but just clear for everyone involved.	• "I want to craft the comprehensive, well-rounded materials to deliver to audiences."
Explore alternative approaches.	• All possible solutions should be on the table during this stage, so encourage learners to make lists, use sticky notes, or voice memos to record any ideas	• "I review books and website; I ask advice from my professional co-worker; I scratch the outlines on words; I look benchmark documents "
Act on the best strategies.	• Review the potential steps and decide which one is the best option to use first. Helping learners to evaluate the pros and cons of action steps can take practice.	• "What are the pros and cons if I take the options A over B?" • "What is the opportunity cost I will receive by taking option C?
Look back to evaluate the effects.	• Review the potential steps and decide which one is the best option to use first. Helping learners to evaluate the pros and cons of action steps can take practice.	• "I didn't learn the slide structure from looking at the website, but it did help to discuss with mentor. I'll start there next time."

Read more: https://lifeskillsadvocate.com/blog/teaching-the-ideal-problem-solving-method-to-diverse-learners/

3 Simple Habits to Improve Your Critical Thinking

by Helen Lee Bouygues

Question Assumptions

Assumption is killing. The more you know, the more you have to re-ask again. Don’t let rumors decoy the hidden truth. Don't worry about being skeptical.

Reason through Logic

Professional often receives a dilemma decision making, but the most of it, logic has to be the fundamental layer.

Diversify Thought

Avoid Groupthink. Let everyone on the room spreads their personalized sparks of idea to ensure no majority-minority voices

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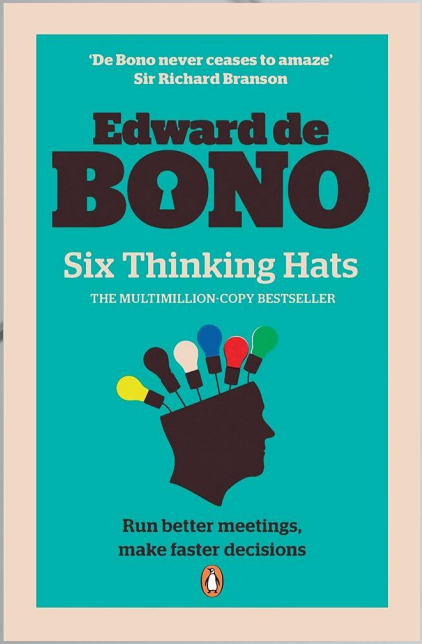
Interactive

Can anyone explain…

“Have you heard of the term 6 Thinking Hats?”



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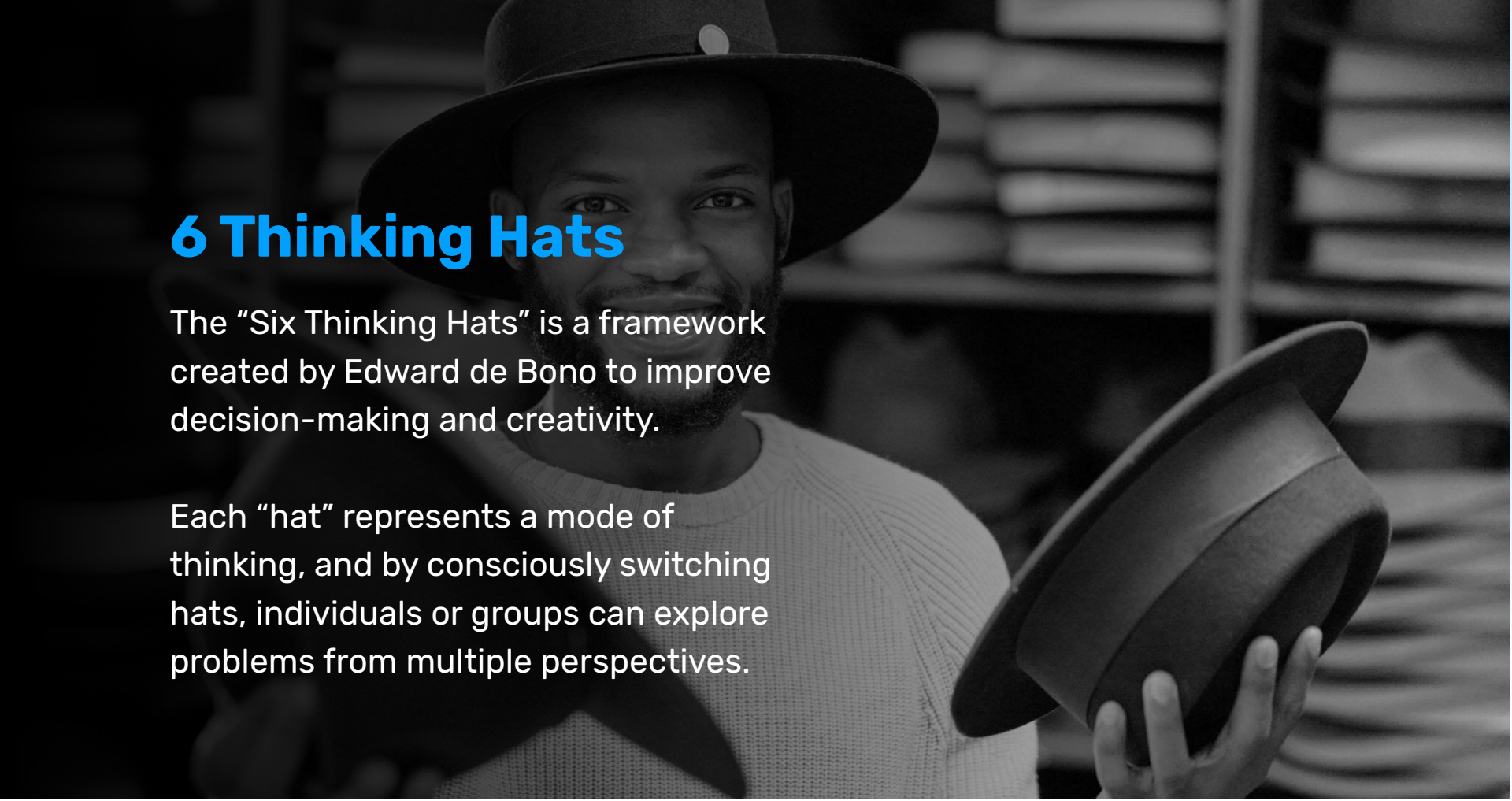

6 Thinking Hats

The “Six Thinking Hats” is a framework created by Edward de Bono to improve decision-making and creativity.

Each “hat” represents a mode of thinking, and by consciously switching hats, individuals or groups can explore problems from multiple perspectives.

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6 Thinking Hats

CASE STUDY: Imagine your company is deciding whether to launch a new product.

Hats	What it means	Example
 **White Hat** *(Facts & Information)*	• Focuses on **objective data, facts, and information**. • Questions like: *"What do we know? What information is missing? What can we learn from past data?"* • Neutral and fact-based thinking.	Review sales data, market reports, and competitor info.
 **Red Hat** *(Feelings & Intuition)*	• Represents **emotions, gut instincts, and intuitions**. • Allows people to **express feelings** without needing justification. • Useful for surfacing hidden concerns or enthusiasm.	Some team members feel excited, others anxious about risks.
 **Black Hat** *(Caution & Critical Judgment)*	• The **risk-spotting and cautionary** mode. • Identifies **potential problems, weaknesses, and dangers**. • Ensures ideas are tested against reality before acting.	Point out supply chain issues and regulatory barriers.

6 Thinking Hats

CASE STUDY: Imagine your company is deciding whether to launch a new product.

Hats	What it means	Example
 **Yellow Hat** *(Optimism & Benefits)*	• Looks for **positive outcomes, opportunities, and value**. • Encourages constructive, forward-looking thinking. • Balances the black hat's caution with hope and potential.	Highlight potential profit and brand growth.
 **Green Hat** *(Creativity & Alternatives)*	• Represents **creative thinking, new ideas, and possibilities**. • Encourages brainstorming, innovation, and thinking outside the box. • Focuses on *what could be, not what is*.	Suggest innovative ways to market or modify the product.
 **Blue Hat** *(Process & Control)*	• The manager of thinking. • Focuses on organization, planning, and meta-thinking (thinking about thinking). • Decides which hats to use, when, and keeps discussion structured.	Guide the discussion, decide next steps, and summarize outcomes.

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Tools for

Problem-solving & Critical Thinking

Problem Identification

Idea Generation

- Green Light & Red Light Thinking
- The Affinity Diagram
- Logic Tree
- The Interrelationship Diagram
- Decision-making Matrix

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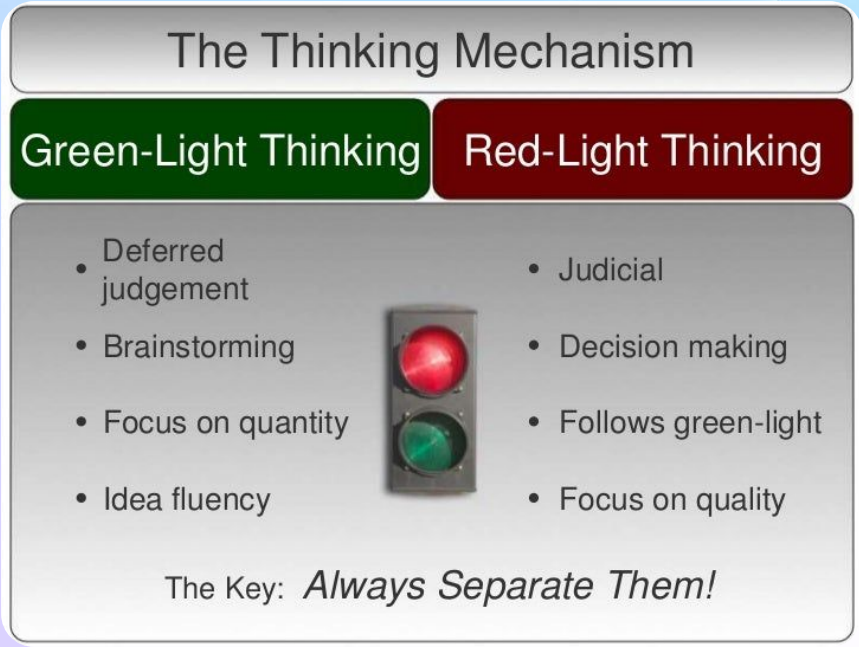
Critical Thinking Tools

Green Light & Red Light Thinking

(Step 1) Green Light Thinking: Freely brainstorm ideas (no judgment) as many as possible.

(Step 2) Red Light Thinking: Critically evaluate & refine the best ones.



Critical Thinking Tools

Green Light & Red Light Thinking

Example

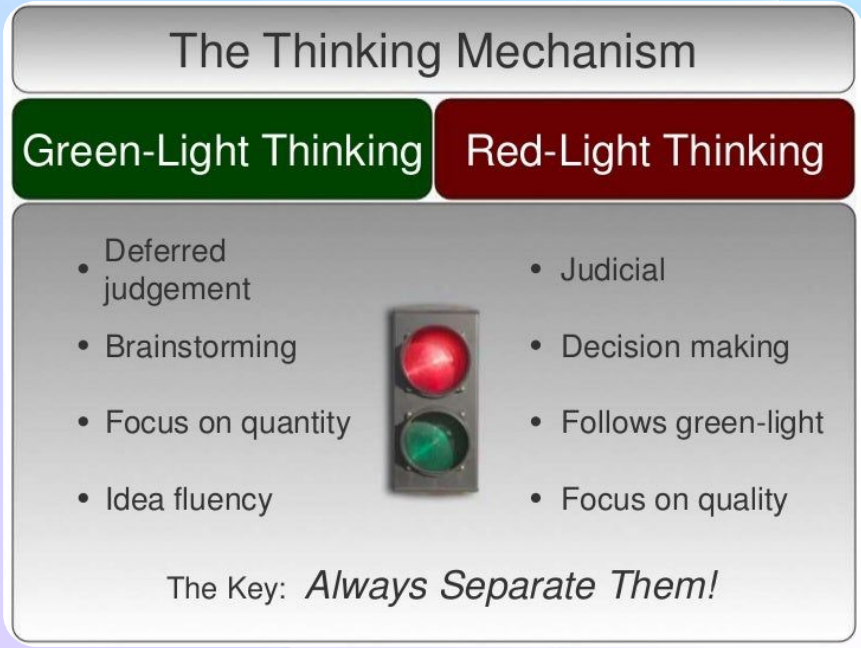
Problem Statement:

“Pizza sales is decreasing”

Green:

- Let’s sell pizza on the moon!
- Midnight delivery
- Drone based pizza delivery

Red: Offer midnight delivery.



Critical Thinking Tools

Practice 1: Green Light & Red Light Thinking

Answer this question with **Green Light Thinking**:

"Why the traffic in Jakarta is crowded?"

Write your answer on notepad / book.

List as many as possible first in 10 minutes, *no judging any idea yet!*

Find at least 30 reasons

Critical Thinking Tools

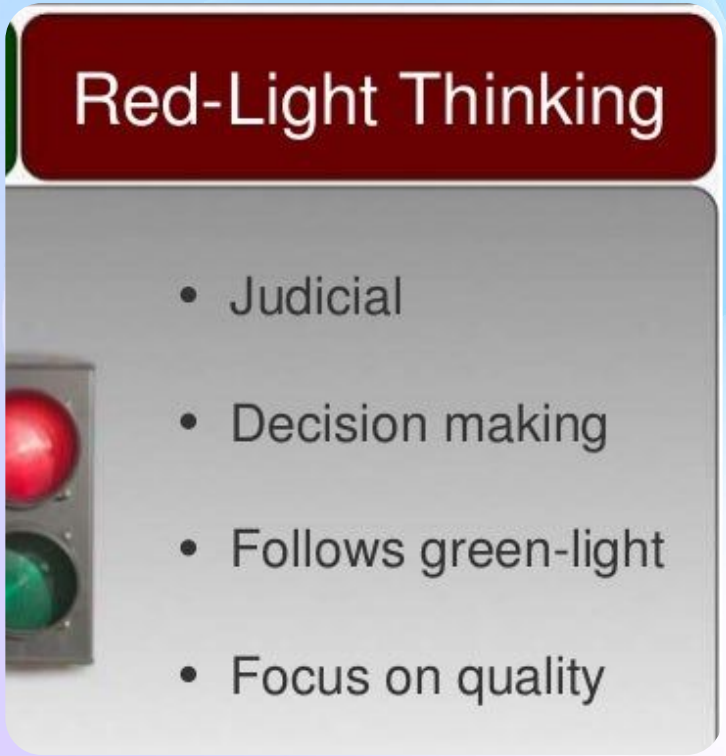
Practice 1: Green Light & Red Light Thinking

Now continue with
Red Light Thinking:

“Which reasons are more relevant?”
“Which reasons are real (based on observation?”

Write your answer on notepad / book.

Select 15 top reasons



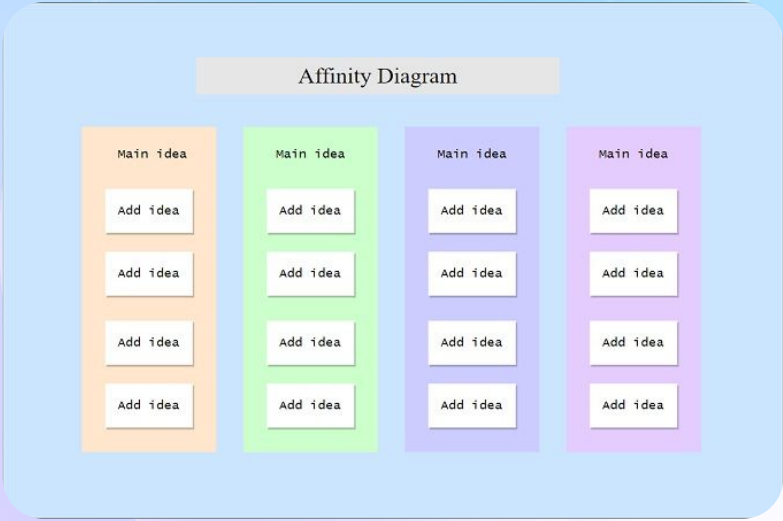
Critical Thinking Tools

The Affinity Diagram

Affinity Diagram = Idea Organizer

Step 1: Dump thoughts.
Step 2: Group similar ones.
Step 3: Name themes.

This spots hidden patterns fast.



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Critical Thinking Tools

The Affinity Diagram

Examples:

Current Ideas for Marketing:

1. Social media content
2. Buy 3 get 1
3. YouTube Ads
4. Poster ads
5. Influencer marketing
6. Tiktok video
7. Instagram reels
8. TV ads
9. Discount

Please categorize these 9 ideas based on your knowledge and understanding

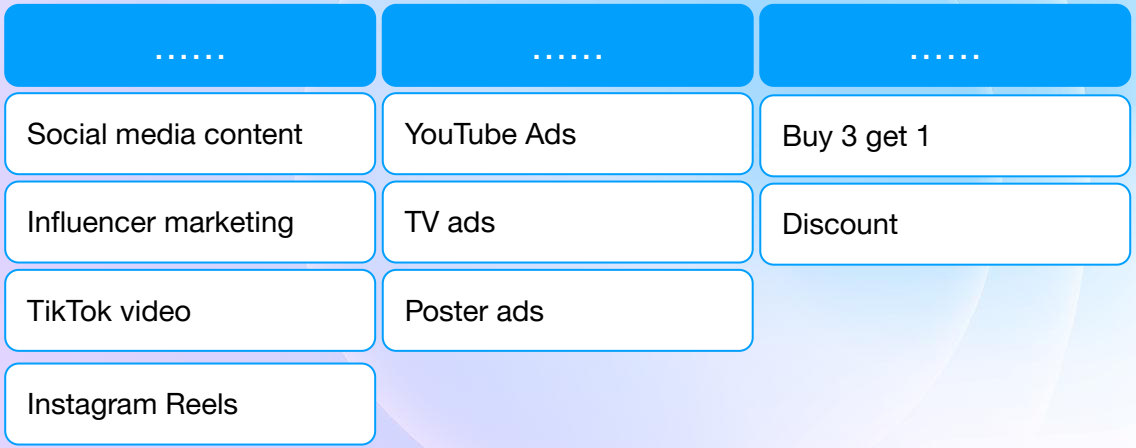
Critical Thinking Tools

The Affinity Diagram

Examples:

Current Ideas for Marketing:

1. Social media content
2. Buy 3 get 1
3. YouTube Ads
4. Poster ads
5. Influencer marketing
6. Tiktok video
7. Instagram reels
8. TV ads
9. Discount



Please name the category based on your understanding

Critical Thinking Tools

The Affinity Diagram

Examples:

Current Ideas for Marketing:

1. Social media content
2. Buy 3 get 1
3. YouTube Ads
4. Poster ads
5. Influencer marketing
6. TikTok video
7. Instagram reels
8. TV ads
9. Discount

Organic Traffic	Advertisement	Promo
Social media content	YouTube ads	Buy 3 get 1
Influencer marketing	TV ads	Discount
TikTok video	Poster ads	
Instagram reels		

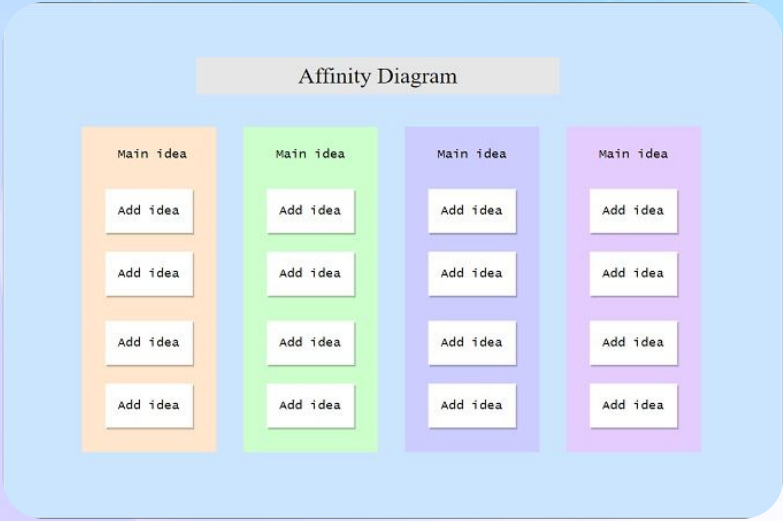
Critical Thinking Tools

Practice 2: The Affinity Diagram

Remember our previous practice?
(about traffic in Jakarta)

Now **group** the 15 top reasons you have picked into **several categories**

Then, give the category a name



Critical Thinking Tools

The Interrelationship Diagram

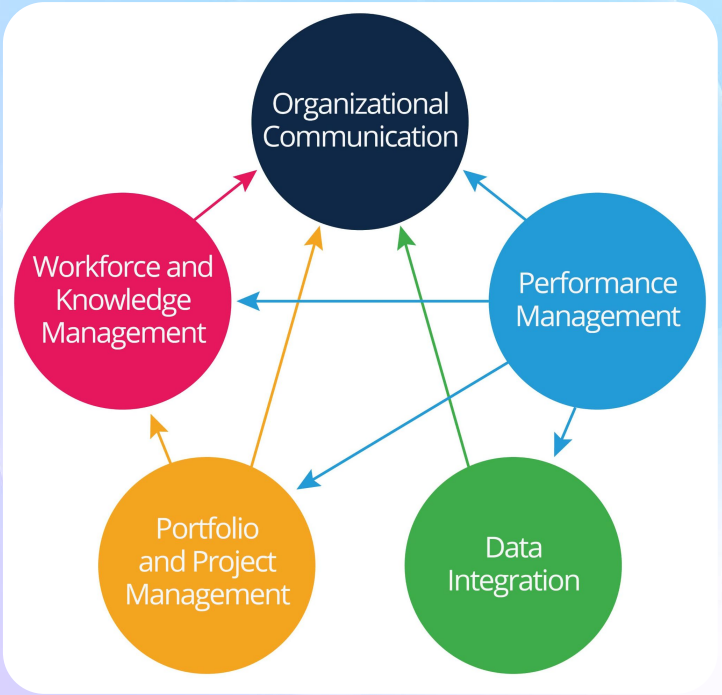
This tool **maps how issues connect**.

How it works:

1. List all problems
2. Draw arrows showing what causes what

Spot the root cause

(the most arrows pointing to it)



Critical Thinking Tools

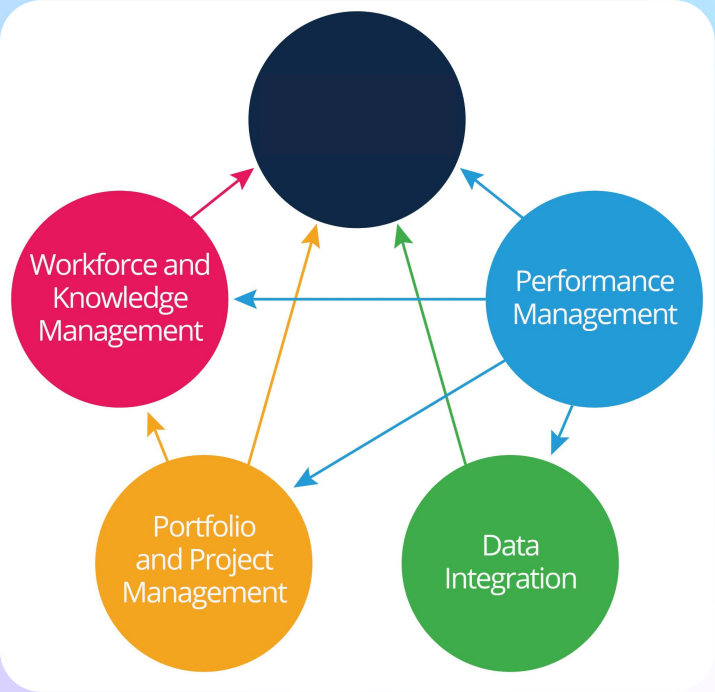
The Interrelationship Diagram

Example:

- "Late deliveries" → Angry customers → Bad reviews
- Root cause? Probably "understaffed warehouse"

Why it rocks:

- Visualizes problem chains
- Finds the real fix



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Critical Thinking Tools

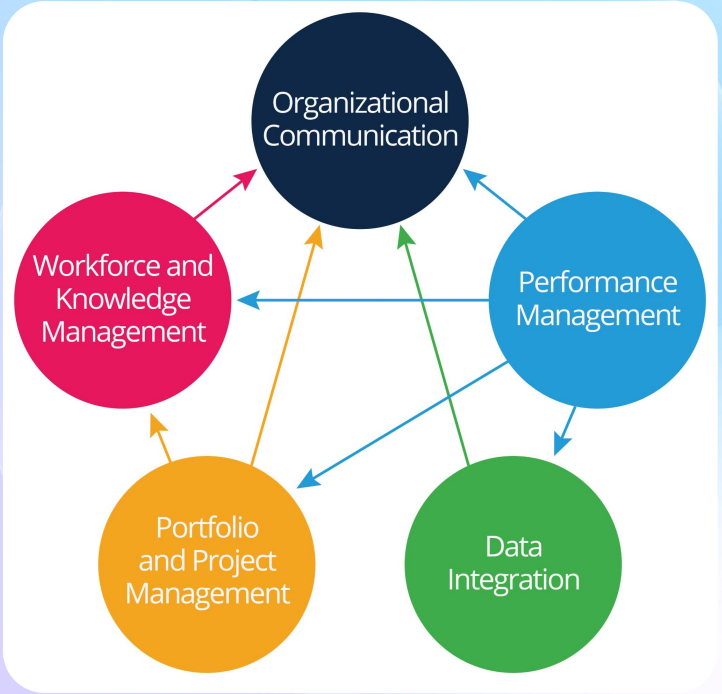
Practice 3: The Interrelationship Diagram

Remember our previous practice?
(about traffic in Jakarta)

Based on the categories you have made,

Draw the line to indicate the cause and effect of each category

Remember:
The root cause is the category with *most arrows pointing to it*



Critical Thinking Tools

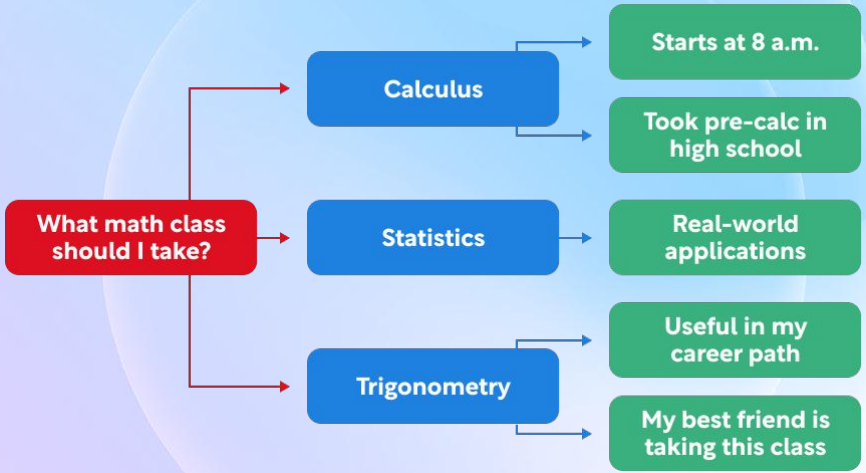
Logic Tree

Logic Tree = Idea Generator

Need fresh solutions? Grow them like branches.

How:

1. Start with core goal (trunk)
2. Branch possible strategies
3. Split into actionable tactics



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Critical Thinking Tools

Logic Tree

Example:

How to Boost sales?

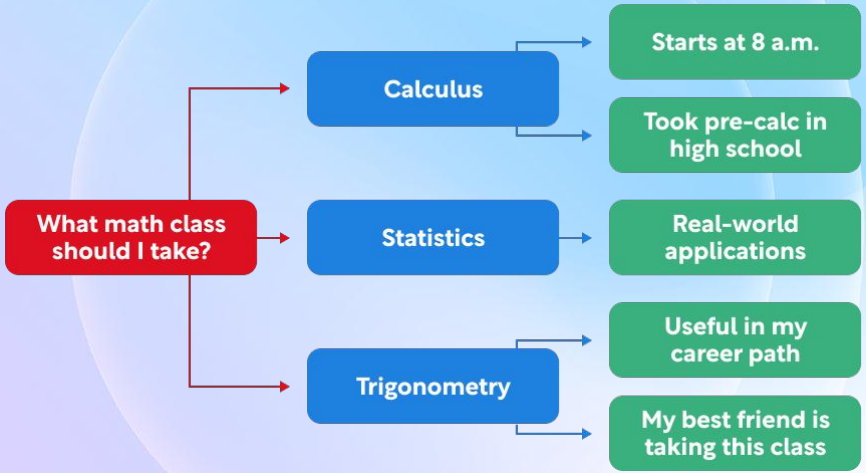
→ Improve reach

→ Utilize TikTok

→ Partner with KOL

Why it rocks:

- Visualizes all options
- Sparks creative combos



Critical Thinking Tools

Logic Tree

Example of Wrong Logic:

How to Boost sales?

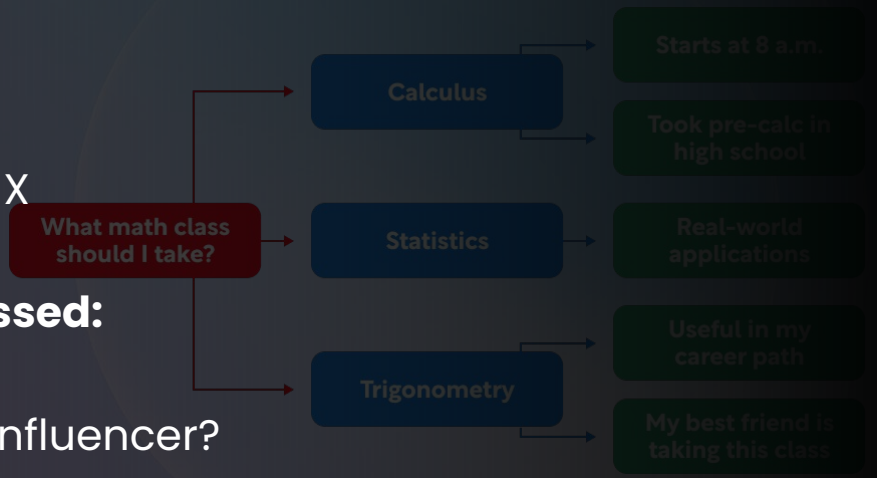
→ Improve reach → Partner influencer X

→ Utilize TikTok

There are layers of analysis that's missed:

1. In what social media?
2. How many followers is our target influencer?
3. Etc.

- Sparks creative combos



Critical Thinking Tools

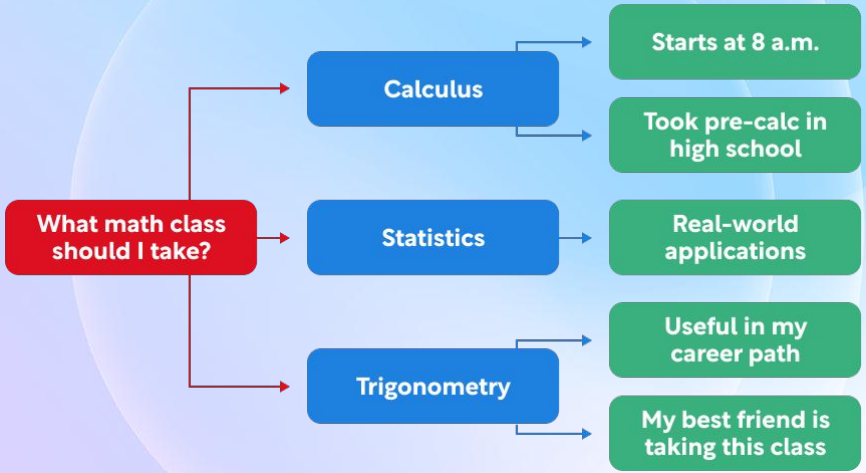
Practice 4: Logic Tree

Remember our previous practice?
(about traffic in Jakarta)

Based on your ‘Root Cause’ problem, use ***Green Light Thinking*** to generate as many solution as possible.

Then select the best ideas with ***Red Light Thinking***.

Then, visualize your best solution options into **logic tree framework**



Critical Thinking Tools

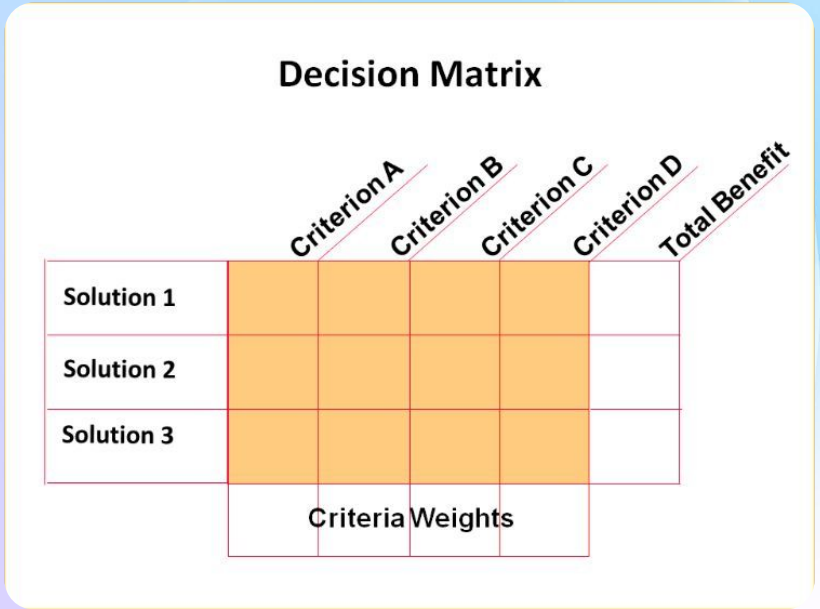
Decision-making Matrix

Decision Matrix = Your Pros/Cons Killer

Torn between options? Score them objectively.

How:

1. List choices (rows)
2. Add criteria that matter (columns)
3. Rate each 1-10



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Critical Thinking Tools

Decision-making Matrix

Example:

Picking an AI Model for everyday use?

→ Deep Seek R1 ✅✅✅

→ Perplexity ✅✅

→ Grok 3 ✅✅✅✅

Why it wins:

- Kills emotional bias
- Reveals the smartest pick

AI Mana yang Paling Cocok Sebagai Default

No	Solusi	Score	Absolute Criteria		
			Free	No/High Rate Limit	Has Web Search & Cite Resource
			10	10	10
1	DeepSeek V3	32	1	1	1
2	DeepSeek R1	36	1	1	1
3	Perplexity	35	1	1	1
4	Gemini 2.0 Flash Thinking Experin	20	1	1	0
5	Gemini 2.0 Pro Experimental	20	1	1	0
6	Gemini 2.0 Flash Light	20	1	1	0
7	GPT-4o	20	1	0	1
8	GPT-4o mini	31	1	1	1
9	Grok 3	39	1	1	1
10	Claude Sonnet 3.7	10	1	0	0
11	Qwen2.5-Max	36	1	1	1

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Bogor is the best option

Where should I go on long weekend (3 days) holiday with my friends?						
		5	2	10	5	0
Options		Bandung	Yogyakarta	Bogor	Wonosobo	Jember
Decision making factors	Weighting	Your Score	Your Score	Your Score	Your Score	Your Score
Hiking activity	5	0	0	1	1	0
Below Rp2M	3	1	0	1	0	0
Fast travel	2	1	1	1	0	0
factor 4	0					
factor 5	0					

Website

Critical Thinking Tools

Practice 5: Decision-making Matrix

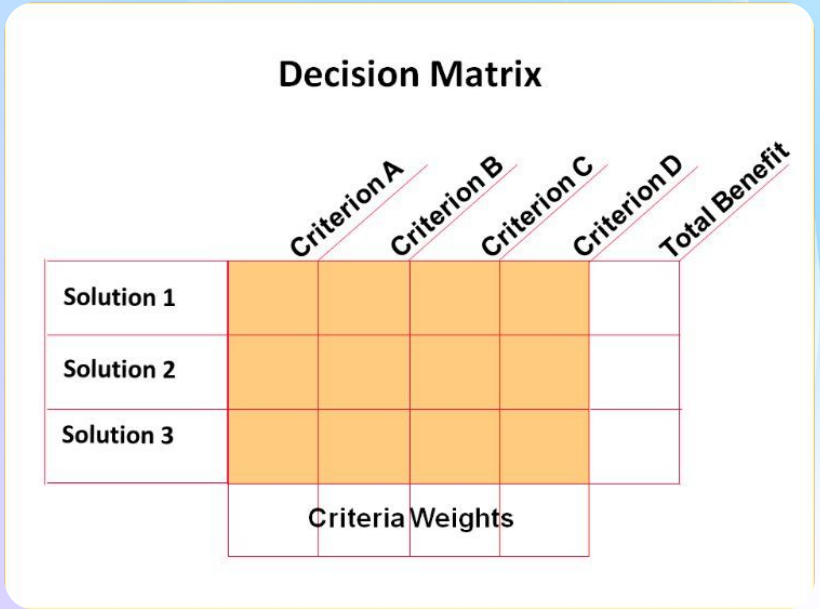
Remember our previous practice?
(about traffic in Jakarta)

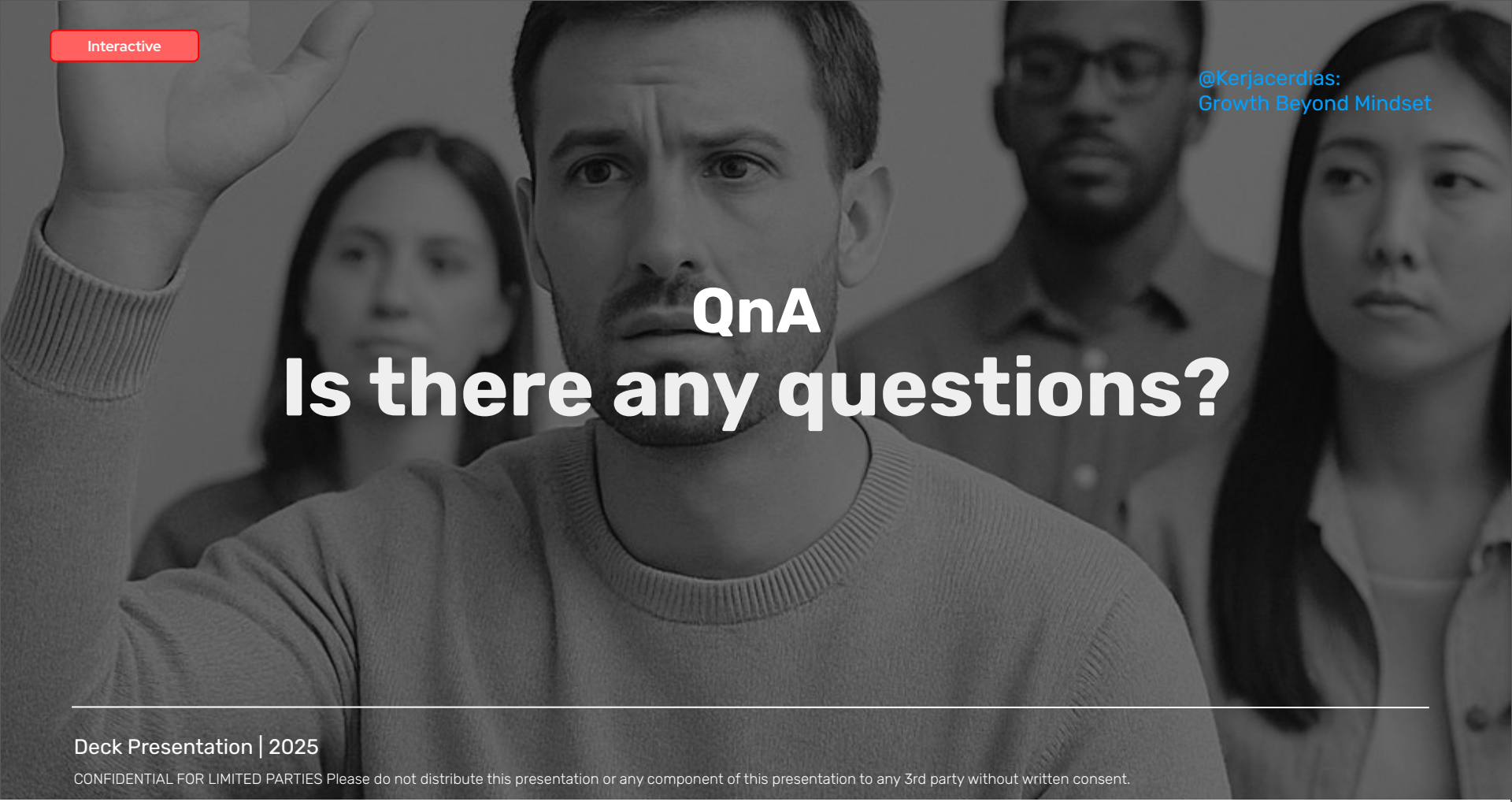
Based on your solutions in **logic tree framework,**

Write the most realistic and practical ‘criteria’ and their weight

Then score each solution based on the criteria

Use this website to help:
https://www.weighteddecision.com/decision-matrix-calculator/#google_vignette





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irvandiassanjaya irvandiassanjaya@gmail.com / kerjacerdias@gmail.com Irvandias Sanjaya LYNK irvandiassanjaya Kerjacerdias

"We do not learn from experience... we learn from reflecting on experience."

~John Dewey (American philosopher, psychologist, and educational reformer)~

irvandiassanjaya irvandiassanjaya@gmail.com / kerjacerdias@gmail.com Irvandias Sanjaya LYNK irvandiassanjaya Kerjacerdias

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irvandiassanjaya irvandiassanjaya@gmail.com / kerjacerdias@gmail.com Irvandias Sanjaya LYNK irvandiassanjaya Kerjacerdias

CONTACT INFO

irvandiassanjaya

irvandiassanjaya@gmail.com / kerjacerdias@gmail.com

Irvandias Sanjaya

LYNK irvandiassanjaya

Kerjacerdias

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