



Challenges with Decisions

Everyone has solutions

There is an abundance of solutions that exist.

Many advertised solutions have more features than what is needed for our problem.



Option overload

We are faced with more options than what we can optimally handle when deciding.



We can't predict the future

Stress is increased with our uncertainty of the future.

Challenging to simulate the impact of our decision, when multiple factors are present.



We want adaptable options

We recognize things change and therefore seek choices that support flexibility.

Will this option inhibit us from what we know we will do in the future?



Short vs Long-term Gains

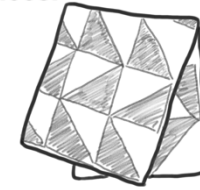
We are faced with showing early results, but many times must decide on how to sustain in the long-term.



Pattern Matching

We are routinely matching problems based on our past experiences.

Our past forms cognitive biases in how we view the problems.



Appeal to Novelty

Newer things appear more valuable than something older, even though that is the only difference.



Engineers are highly susceptible to this due to the nature of technology.

Sunk Cost Fallacy

Recognize our tendency to continue with an option when we have made previous investments in its existence.

Negative code changes is a positive option.

View code as a liability, not an asset.

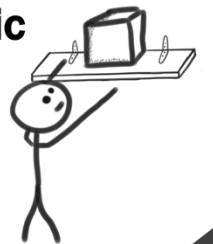


Availability Heuristic

We consider the options that easily come to mind.

If it doesn't easily come to mind, it is at a significant disadvantage.

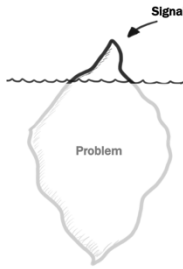
Have diverse backgrounds in decisions to expand our perception of availability.



Seek the problem beyond the signal

We get unique signals of problems, but we want to fix the cause of the signal.

Pursue different ways of describing the problem in abstract ways.



Problem Framing

Find ways to reframe the problem to expose an ideal option.

Bring outsiders into the discussion (boundary spanners)
Get people's definitions in writing (avoid confusion)
Ask what's missing (what has not been captured?)



Problem and Solution Spaces

Do not get lost in the solution space, by keeping a focus on the problem that needs to be solved.

Keep asking how is this solving our problem, to not get lost in the solutions.



Harvard Business Review

@copyconstruct

No Code is an Option

We many times get lost on what we want to add or change in the system, versus the option of not even building it.



@kelseyhightower

Test in Small Ways

When evaluating options, always pursue the ability to test it in a small sample.

You can learn the most with the least cost and risk.

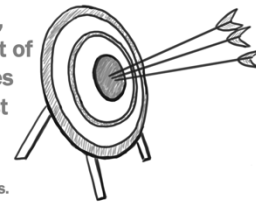


Seek Outcomes

When evaluating options, share them in the context of the measurable outcomes they can produce, not just their features.

Simplifies the assessment of opportunity costs with the alternatives.

Recognize the 80/20 rule, and identify the top 20% of focus.



Thinking, Fast & Slow

System 1: Automatic, low effort, can easily result in wrong conclusion.

System 2: Attention, requires effort, complex computations.

Creates the world we see.



Thinking, Fast and Slow by Daniel Kahneman

Kicks in when System 1 has problems (reasoning, deals with doubt)



Explore vs. Exploit Tradeoffs

Recognize when you are making this tradeoff. When time is limited (can occur often), we favor exploit.

Build time into your plans which allow for exploration of new options.



Uncharted Territory

Be cautious when an option encourages you to be the "first" in how you are solving the problem.

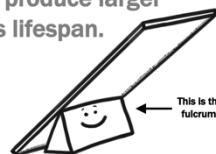
There is a larger tax you will pay in this pursuit, which you seldomly can afford, nor predict accurately.



Fulcrum Hunting

Seek options which invite small amounts of effort and produce larger benefits throughout its lifespan.

Simulate the effort of using the option in much later stages of its lifecycle to highlight its leverage.



This is the fulcrum.

Sleep on It

Avoid making difficult decisions at the end of the day. Allow your brain to literally sleep on it.

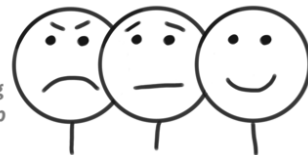
Most decisions at the end of the day, can also wait for the next morning.



Emotions are your Enemy

Our emotions strongly influence our fast decisions, but they can often misguide us.

When emotions are high, focus on deferring the decision, use "Sleep on It"



You are Always Negotiating

Engineers love to solve problems, and proposed options can be framed as a challenge for them to solve.

When explaining if an option is feasible, remember that you may be negotiating away available resources.

@mtnygard



Optimal Stopping

For many decisions, you are not able to exhaustively assess all of your options. The focus becomes when do you stop.

It is at 37% of your total time planned. Can be longer if you can recall an earlier option.



Delay the Decision

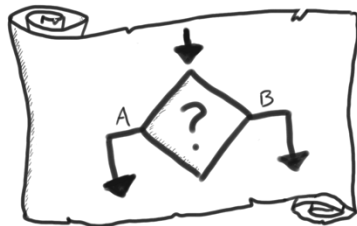
Focus on delaying decisions that do not require an immediate choice.

You may be able to make a decision on a subset of the problem, which you may have sufficient information (attribute substitution).



Decisions

The Pursuit of Options



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Imperfect Decisions Can Work

Do not inhibit decision making based on when you have the perfect choice.

Favor "Test in Small Ways" by pursuing an option, but allowing you to change the decision later with low cost.



Capture your Decisions

Use lightweight Architectural Decision Records to capture the context and the why.

Encourages context sharing, minimizes communication loss, and fosters the ability to change past decisions.



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Seek Standards and Communities

Open-source makes it so much easier to find open discussions and the direction of projects.

Cloud Native Computing Foundation (CNCF) is a great example of a strong community seeking common solutions that are vendor agnostic.

