



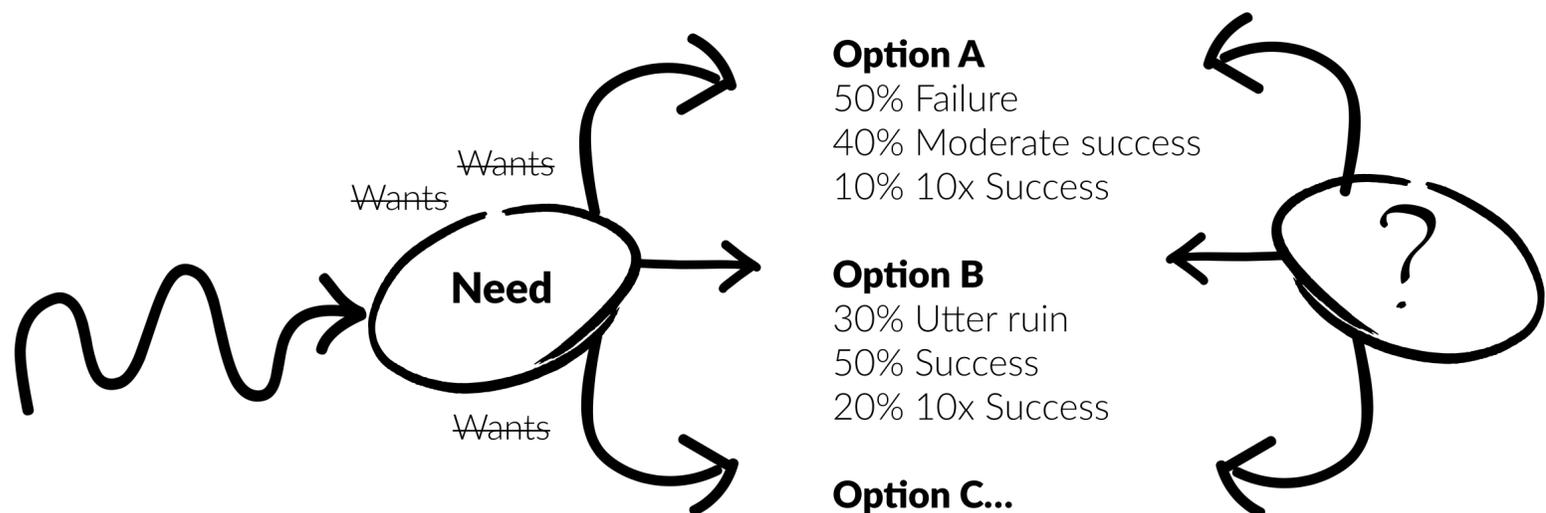
**HOW TO MAKE BETTER  
DECISIONS**

# Everything You Need to Know in One Page

If I were to summarise everything I know about decision-making in one sentence, it is this: don't look for certainty, take calculated risks that limit the downside. Certainty is not possible. But if you think probabilistically, you can operate well with uncertainty. This is the same principle used by the world's most successful investors. Second, keep a decision journal. It will force you out of fuzzy thinking beforehand, and it will improve your decision-making by giving you an objective feedback loop afterward. Third, follow a decision-making process like the one above. Unfortunately, only 2% of managers follow best decision-making practices, but by adopting a process it will improve your decisions more than analysis by a factor of six (Lovallo & Sibony 2010).

## Goal: Take calculated risks that limit the downside

Steps: 1: Delay decision    2: Delete non-priorities    3: Invent scenarios    4: Invert assumptions



### Step 1: Delay decision

Rushed decisions tend to be worse decisions. Instead, delay your decision if it is advantageous. It will:

- Prevent errors of inspiration: Almost every sales tactic preys on this, e.g. scarcity, authority liking, social proof, envy.
- Prevent errors of perspiration: Never make a big decision when you are stressed, tired, or hungry. You can be sure you will regret it.
- Prevent errors from lack of data: The longer you wait, the more data you have to make a better decision. Use it.

### Step 2: Delete non-priorities

Separate your needs and wants and it will simplify your decision-making. It will:

- Solve cognitive scope limitations: I.e. our brain is not a computer algorithm. You must separate the noise from the signal to process it.
- Solve decision paralysis: Most decisions freeze because they are trying to meet too many "nice-to-have's" rather than one real need.
- Align actions with values: Does your "need" align with your life values and calling?

### Step 3: Invent scenarios

Conduct a probabilistic pre-mortem, i.e. two years from now you are looking back on this decision and this is what happened.

- Multiply options: You will make statistically better decisions if you are not deciding between two options. Invent option 3 and 4.
- Multiply outcomes: We tend to think, "If I do this, then that will happen". Instead consider several possible outcomes.
- Assign probability: Decision-making is not about certainty but about probability within uncertainty. Make an educated guesstimate.
- Imagine second-order effects: We tend to make decisions based on short-term results (or first order effects), not unanticipated, long-term results (or second order effects). The latter, however, is far more important

### Step 4: Invert assumptions

Look at the same scenarios but now question all your assumptions and update it accordingly.

- Question your optimism bias: We all tend to think we are the exception, especially those with a proclivity to optimism.
- Question your first conclusion bias: We are terrible at changing our first conclusion. Instead look for disconfirming evidence.
- Get statistics: Nothing will make your optimism and confirmation bias more honest than finding some real statistics to anchor it in.
- Imagine the worse-case scenario: What will you do if the worst happens? This is what Tim Ferriss and the Stoics call "fear-setting".
- Ask others, if you are out of your circle of competence: Doing something you've never done before? Ask someone who has.
- Ooch it: Ooching is a small experiment to get your toe in the water, rather than jumping in or analysing ad nauseam, e.g. an internship.

# A Brief History of Decision-Making Models

In 1772, Benjamin Franklin invented the pro-con list method of decision making. It is still the popular way to make decisions (if one uses a process at all). But we've learned a lot about decision making since then. We've come up with highly rational models which take a long time to implement (Bazerman 1986), highly intuitive models that take less than a minute (Bezos (1994), and everything in between. The DDII model (delay, delete, invent, invert) tries to synthesise the best of 250 years. It's four simple steps that are flexible enough for little, everyday decisions and robust enough for big, business decisions.

	Delay Decision	Delete Non-Priorities	Invent Scenarios	Invert Assumptions
<b>Pro-Con List</b> Franklin (1772)		Assess importance	Assess probability Frame as yes/no	List pros and cons
<b>Pareto Analysis</b> Pareto (1896)		Eliminate 80%	Consider options	
<b>SWOT</b> Unknown (1960s)				Strengths Weaknesses Opportunities Threats
<b>Decision matrix</b> Pugh (1981)		Brainstorm criteria Reduce criteria Assign criteria weight	Evaluate choices by criteria weight	
<b>Recognition Primed Decisions</b> Klein (1985)			Recognise conditions	Simulate action script Alter action script
<b>Six Thinking Hats</b> de Bono (1985)	Controller hat	Intuition hat	Creativity hat Data hat	Critical hat Optimism hat
<b>Decision Trees</b> Quinlan (1986)		Weighted outcomes	All possible events Event probability	All potential effects
<b>Rational Model</b> Bazerman (1986)		Problem Criteria Rate alternatives Compute optimal	Alternatives	
<b>Yes or No</b> Johnson (1992)		Focus on real needs, not wants	Create better options Consider likely consequences	
<b>Regret Minimization Framework</b> Bezos (1994)		Ask, "In X years, will I regret not doing this?"		
<b>30 Laws</b> Foster (2001)	"Don't decide until ready"	"Focus on most important thing", "Do what you really want", Set priorities, Don't obsess over details	"Look ahead", "Don't feel locked into 2 alternatives", "Get what you need to feel safe"	"Find and follow an expert", "Look for all good things that can happen",
<b>Thinking Fast, Thinking Slow</b> Kahneman (2011)	System 1	System 1	System 2	System 2
<b>Antifragility</b> Taleb (2012)	Rational flaneur	Via negativa	Optionality Assymetry	Uncertainty
<b>WRAP</b> Heath (2013)	Attain distance		Widen options	Reality test Plan for worst
<b>Principles</b> Dalio (2017)			Probability weighting	Second-order effects

# Mental Models Used

This page is for nerds – the kind that like to understand the big ideas of history and how they fit together. These big ideas are commonly called mental models – a time-tested representation of the world that applies across disciplines. The DDII Model applies 58 mental models in its four steps. The good news is that you don't need to remember them in order to apply them if you follow the four steps of delay, delete, invent, and invert. Think of it like good decision making for dummies. Don't worry about trying to understand the chart below (it's for R&D nerds). But if you are so brave, Google the terms and you will discover a whole world of big ideas that inform good decision-making.

<b>Delay Decision</b>	<b>Delete Non-Priorities</b>	<b>Invert Scenarios</b>	<b>Invert Assumptions</b>
Incentives bias	Signal to noise ratio	Black swans	Confirmation bias
Framing	Via negativa	Scientific method	Wisdom of crowds
Narrative fallacy	Occam's razor	Assymetry	Antiknowledge
Willpower depletion	Cognitive scope limitation	Experimentation	Survivorship bias
Novelty	Pareto principle	Second order thinking	Critically important assumptions
Reptilian brain	Conscience pleasing	Next best alternative	Map is not the territory
Social proof	One thing essentialism	Stochastic processes	Inversion
Authority		Falsification	Circle of competence
Consistency		Survival	Lollapalooza effects
Liking		Thought experiments	Opportunity costs
Reciprocity		Outcome bias	Multiply by zero
Scarcity		Probabilistic thinking	Representative heuristic
Breaking points		Hindsight bias	Network effects
Tendency to envy		Bayesian updating	Redundancy
Signalling theory		Antifragility	Scaling
Veblen effect		Margin of safety	Compounding
		Uncertainty	
		Feedback loops	
		Irreducible complexity	
		The butterfly effect	

# Quotes

## Overview: Take Calculated Risks

- “Life shrinks or expands in proportion to one’s courage.” - Anaïs Nin
- “It is not the strongest of the species that survives, nor the most intelligent, but the one most responsive to change.” - Darwin
- “If you find a path with no obstacles, it probably doesn’t lead anywhere.” - Frank A. Clark
- “Making a handful of good uncorrelated bets that are balanced and leveraged well is the surest way of having a lot of upside without being exposed to unacceptable downside.” - Ray Dalio
- “Realize that ultimate success comes from opportunistic, bold move which by definition, cannot be planned.” - Ross Johnson
- “You can’t be normal and expect abnormal returns.” - Jeffrey Pfeffer
- “I didn’t get to where I am by going after mediocre opportunities.” - Charlie Munger

## Step 1: Delay Decisions

- “This is a story about us, people being persuaded to spend money we don’t have, on things we don’t need, to create impressions that won’t last, on people we don’t care about.” - Tim Jackson
- “It’s hard to fight an enemy who has outposts in your head.” — Sally Kempton, meditation teacher
- “Whatever is begun in anger ends in shame.” - Benjamin Franklin
- “Never take advice...that benefits the advice giver.” - N.N. Taleb
- “Rational flâneur (or just flâneur): Someone who, unlike a tourist, makes a decision opportunistically at every step to revise his schedule (or his destination) so he can imbibe things based on new information obtained. In research and entrepreneurship, being a flâneur is called “looking for optionality.” - N.N. Taleb
- “One should lead a life in which procrastination is good, as a naturalistic-risk-based form of decision making.” - N.N. Taleb

## Step 2: Delete Non-Priorities

- “A wealth of information creates a poverty of attention.” - Herbert Simon
- “Innovation is saying no to 1,000 things.” - Steve Jobs
- “I don’t know the key to success, but the key to failure is trying to please everybody.” - Bill Cosby
- “If you have more than one reason to do something...just don’t do it. It does not mean that one reason is better than two, just that by invoking more than one reason you are trying to convince yourself to do something. Obvious decisions (robust to error) require no more than a single reason.” - N.N. Taleb

## Step 3: Invent Scenarios

- “Essentially, all models are wrong, but some are useful.” - George E.P. Box
- “It is better to be roughly right than precisely wrong.” - John Maynard Keynes
- “Your environment will eat your goals and plans for breakfast.” - Steve Pavlina
- “Before every action, ask yourself: will this bring more monkeys on my back?” - Alfred Monapert
- “Only presumptuous fools plan. The wise man steers.” - Terry Pratchett
- “Wisdom consists of the anticipation of consequences.” - Paul B. Sears
- “This is the central illusion in life: that randomness is risky, that it is a bad thing—and that eliminating randomness is done by eliminating randomness.” - N.N. Taleb

## Step 4: Invert Assumptions

- “Invert, always invert.” - Charlie Munger
- “If everyone is thinking alike, then somebody isn’t thinking.” - George S. Patton
- “There’s no problem you can have that someone hasn’t already solved and wrote about it in a book.” - Will Smith
- “I never allow myself to hold an opinion on anything that I don’t know the other side’s argument better than they do.” - Charlie Munger
- “What the human being is best at doing is interpreting all new information so that their prior conclusions remain intact.” - Warren Buffett
- “Faced with the choice between changing one’s mind and proving there is no need to do so, almost everyone gets busy on the proof.” - John Kenneth Galbraith
- “We have two classes of forecasters: Those who don’t know – and those who don’t know they don’t know.” – J.K. Galbraith
- “Just because you’re winning a game doesn’t mean it’s a good game.” - Seth Godin

# Further Reading

## **Delay Decisions: On thinking errors, human nature, and decision journals**

- \*Rolf Dobelli: Art of Thinking Clearly (2011)
- Robert Cialdini: Influence: The Psychology of Persuasion (1984)
- Charlie Munger: The Psychology of Human Misjudgment (1995)
- Daniel Kahneman: Thinking, Fast and Slow (2011)
- Richard Thaler & Cass Sunstein: Nudge: Improving Decisions about Health, Wealth and Happiness (2008)
- Carol Tavris and Elliot Aronson: Mistakes Were Made (But Not by Me): Why We Justify Foolish Beliefs, Bad Decisions, and Hurtful Acts (2007)
- Atul Gawande: The Checklist Manifesto: How to Get Things Right (2009)
- Sam Kyle: The Decision Checklist: A Practical Guide to Avoiding Problems (2018)
- Balthasar Gracian: The Art of Worldly Wisdom (1647)
- Benjamin Franklin: Poor Richard's Almanack (1732)

## **Delete Non-Priorities: On separating needs and wants**

- \*Gary Keller: The One Thing: The Surprising Simple Truth Behind Extraordinary Results (2013)
- Nate Silver: Signal and the Noise: The Art and Science of Prediction (2012)
- Richard Koch: The 80/20 Principle: The Secret to Achieving More with Less (1991)
- Spencer Johnson: Yes or No: The Guide to Better Decisions (1993)

## **Invert Scenarios: On calculated risk, probabilistic thinking, limiting the downside, and second order effects**

- \*N.N. Taleb: Antifragile (2012)
- Annie Duke: Thinking in Bets: Making Smarter Decisions When You Don't Have All the Facts (2018)
- Ray Dalio: Principles (2017)
- Warren Buffett: The Essays of Warren Buffett: Lessons for Corporate America (1997)
- Harry Browne: Fail Safe Investing (1998)
- John Casti: X-Events: The Collapse of Everything (2012)
- James Dale Davidson & Lord William Rees-Mogg: The Sovereign Individual: Mastering the Transition from the Information Age (1997)
- Peter Diamandis: Bold: How to Go Big, Create Wealth, and Impact the World (2015)
- Eric Ries: The Lean Startup (2011)
- Donella Meadows Thinking in Systems: A Primer (2008)
- Edward Lorenz: The Butterfly Effect (1950s)
- Salim Ismail: Exponential Organizations (2014)

## **Invert Assumptions: On mental models, circle of competence, and reality testing your assumptions**

- \*Shane Parrish: Mental Models: The Best Way to Make Intelligent Decisions (Unpublished, fs.blog)
- Charlie Munger: Poor Charlie's Almanack: The Wit and Wisdom of Charles T. Munger (2005)
- Josh Kaufman: The Personal MBA: A World-Class Business Education in a Single Volume (2010)
- Peter Bevelin: Seeking Wisdom: From Darwin to Munger (2003)
- Chip & Dan Heath: Decisive: How to Make Better Choices in Life and Work (2013)

\* Indicates the best book to read if you only have time for one.

# Reflection Questions

**What aspects of your personality make you a good decision maker? Poor decision maker?**

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**What decision making process do you currently use to make big decisions?**

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**Which of the four steps of DDII are you best at? Worst at?**

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**Which of the decision making books are you familiar with already?**

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