

# List of Cognitive Biases and Their Uses

## INTRODUCTION

There are almost as many definitions of cognitive biases as there are documented biases themselves. For simplicity's sake, let's say "cognitive bias means that the way we process external information (cognitive function) has an impact (bias) on how we interpret and use that information". In other words, we all filter everything through our own perception, habits and framework of our experiences - whether we are aware of this or not. Our decisions and actions are then based on this filtered ('biased') interpretation.

The number of documented cognitive biases also varies greatly. **Rolf Dobelli** lists 99 of them in his excellent book, "The Art of Thinking Clearly" (2013, Sceptre, UK).

[www.TeachThought.com](http://www.TeachThought.com) summarizes more than 180 in their "Cognitive Bias Codex", split into four categories: 1. Too Much Information; 2. Not Enough Meaning; 3. Need To Act Fast; 4. What Should We Remember? <https://www.teachthought.com/critical-thinking/the-cognitive-bias-codex-a-visual-of-180-cognitive-biases/#:~:text=A%20cognitive%20bias%20is%20an,%E2%80%93and%20often%20irrational%E2%80%93conclusions.>

**Olivier Sibony**, in his recent seminal work "You're About to Make a Terrible Mistake!" (2020, Hachette, USA) listed 24 key biases in decision making, sorted into 5 groups: 1. Pattern recognition; 2. Action orientation; 3. Inertia; 4. Social effects; 5. (Self) Interest.

Without attempting to classify the many biases into a few groups, we are listing here our own favourite "Top 27". In our experience these cover most of the impact areas anyone needs to be aware of. For each of them we give their name, short definition, an example of their impact and another example of their use. In our work we classify them when it makes sense - to be able to use them more efficiently. For example, to improve strategic decision making we follow the "Sibony Model" of classification and use.

## LIST OF BIASES

### 1. Survivor Bias

#### Definition

We only look at existing (successful) people / companies, but not those who failed.

#### Example

We think all Hungarian immigrants to the US became successful because only those visit HU to brag. Those who failed have no money and no willingness to show their faces.

#### Use

Be careful not to draw conclusions based on existing companies. Many similar companies may have gone out of business, for the same reasons you think those current ones are successful.

## 2. Sunk Cost Fallacy

### Definition

We throw good money after bad because it's hard for us to write off losses and move on. Similar to the "Gambler's Mistake": doubling down every time we lose, expecting our luck will have to turn sometime.

### Example

Most people don't sell their investments when their value declines because they don't want to lose the money already invested. As a result, they lose more as the investments keep declining.

### Use

Create a "sunk cost" schedule for all projects, to show what investment you have to write off if you stop at a given step. Define exit criteria for each step. Budget for the potential loss so it's easier to take.

## 3. Dunning-Kruger Effect

### Definition

Those with little understanding overestimate their knowledge. Those with deep knowledge underestimate it.

### Example

If we understand something we assume it will be obvious to others as well. It will not be and they will be convinced they are right.

### Use

Make sure you explain how you got to your belief, not just the supporting evidence for it (which they may misinterpret because they think they know better - but they don't).

## 4. Imposter Syndrome

### Definition

Believing that we are not capable of doing something just because we have never done it and we will be revealed as a "fake" who got to where we are by pretending we are good (smart, etc).

### Example

Madonna (by her own admission) was always driven by her insecurity because she believed she could not dance or sing or act as well as a trained singer / dancer / actress.

### Use

Ask yourself: is there anyone available who could do this better than me? If not, then relax. Also ask: is the outside world's definition of success is as high as my expectations? Often it is not.

## 5. Focalism

### Definition

Putting too much (unconscious) emphasis on a single factor when making judgements. Often this factor is unrelated to the issue at hand.

**Example**

If you ask young people about their best dating experience first, they will give much higher “life satisfaction” responses than the same people if you don’t ask the “dating” question first.

**Use**

Beware of your mood when making a decision and beware why your mood is the way it is. Research shows we invest more when we are happy and divest more when we are not. Focus on the facts that should really be taken into account for the decision.

## 6. Projection Biases

**Definition**

We overestimate the impact of current events on the future / on our future success or happiness. We estimate the future impact of innovation based on current circumstances, forgetting the world will also change. We overestimate the short term impact of innovation and underestimate the long term one.

**Example**

Think of any number of futuristic prediction. Think of how what made you miserable today may lose its significance in a year. Think of all the optimistic business plans ignoring competitive reactions / progress.

**Use**

Always ask: what will be the competitive reaction to this? How will we respond to that? What are our contingency plans if anything changes?

## 7. Base Line Neglect

**Definition**

Ignoring the statistical composition of our sample, base line or comparison base.

**Example**

Advertising in a high cost special magazine because its readers are exclusively our target people. Despite the fact that a generalist, and lower cost, magazine would reach more of our target segment for less money because it has a broader circulation (thus more of our target people, even if they are a lower % of its readership).

**Use**

Always look at the factual base on which assumptions are based. Filter out statistical effects. Optimize your selected sample regardless of where it came from. Avoid “% of %” derivations - they distort facts.

## 8. Spotlight Effect

**Definition**

We focus on attributes and overplay their importance when our attention is directed to them in any way.

**Example**

If you grow a beard you’ll notice how many people have one. Once you bought a Honda you’ll notice more of them on the road.

**Use**

Only bring attention to something when you know it will stand up to scrutiny. Many years ago Ford USA improved their cars' quality and started advertising it. But they have not yet reached the quality level people expected. So their quality perception (and sales) declined, despite investing heavily in quality upgrades.

## 9. Hindsight

**Definition**

If something went right, it was our doing. If something went wrong, it was the circumstances.

**Example**

Any number of company annual reports.

**Use**

Scrutinize all reports for signs of environmental impacts. Compare results to strict BAU base lines.

## 10. Bubble Effect and Echo Chamber

**Definition**

We select our friends / colleagues to be similar to us. So their opinions show the same bias as ours - we should not think it's representative. ("Bubble"). We listen to news that reinforce our own opinion, but not to media that challenges it ("Echo Chamber")

**Example**

Increasingly hard to avoid. Google, for example, will prioritize search results based on your past searches. This will magnify the Echo Chamber effect.

**Use**

Don't ever 'shoot the messenger' because you create an Echo Chamber. Don't ever 'hire yourself'. This is the way to better decisions.

## 11. Confirmation Bias

**Definition**

Selective listening. We only listen to what reinforces our beliefs and ignore the rest of the message(s). This magnifies the Echo Chamber and Bubble effects.

**Example**

If I decided I support "Party A" I will ignore everything that would show that my belief is misplaced. But I will accept any part of any message that supports my belief.

**Use**

Do not waste time trying to convince people about the opposite of their strongly held beliefs. Put your message into their context, do not challenge their feeling of wisdom.

## 12. Endowment Effect

### Definition

People value what they own more than what they don't.

### Example

You are willing to pay \$50 for a nice bottle of wine. But once it's yours, you wouldn't sell it for \$75.

### Use

Make sure you are rational in your buy/sell approach and price points. Use this effect to create a value perception amongst your customers. Realize that a product defect may appear as a bigger value destroyer than you think - it may be 2/3 of "\$75" and not 2/3 of "\$50".

## 13. Availability Bias

### Definition

Believing available data is all there is, ignoring what we do not see / have.

### Example

In the absence of car safety data many people will make buying decision on price, performance, comfort, colour, etc - even if safety is very important to them otherwise.

### Use

Set up a list of evaluation criteria for each decision and check it when deciding. Even if you don't have the information, at least you will know what you have overlooked (and thus how good your decision is, what risk you may be taking).

## 14. Anchoring

### Definition

Unconsciously picking a reference point and comparing everything to it.

### Example

Usually the first or last thing we saw stays in our mind ("primacy / recency bias"). However, something emphasized just prior to the main point may also be taken as a reference.

### Use

"Be the first or be the last" to present to ensure the audience remembers. Present a more expensive option first before presenting what you want to sell.

## 15. Ambiguity Aversion

### Definition

We believe avoiding ambiguity is the same as avoiding risk.

**Example**

Risks can be known or unknown (ambiguous). Ambiguous things can be riskless or risky. A risk can be defined as % probability of something happening. Ambiguity cannot.

**Use**

Simply ask the question: is this ambiguous or is this risky. Then go from there using the above logic. Ambiguity may be avoided. Risk may be managed. Not the other way around. Plan actions accordingly.

## 16. Self Confidence Blind Spot

**Definition**

Using ourselves as the standard and/or overestimating our abilities.

**Example**

85% of people consider themselves 'above average' drivers. Anyone who is faster than us is a 'reckless maniac'. Anyone driving more slowly is an 'idiotic Sunday driver'.

**Use**

When judging / presenting proposals always ask: what would others say? You may not be the standard your audience or boss use.

## 17. Impact Bias

**Definition**

People overestimate the impact of a single event which they are focusing on.

**Example**

Bringing flowers / gift to someone may not make up for all the small annoyances caused in the past.

**Use**

When estimating the impact of an initiative force everyone to think about details of the before / after states. Research shows thinking of small details will reduce the Impact Bias with the target activity.

## 18. Framing

**Definition**

People will set different boundaries for their decisions depending on the situation. We prefer guaranteed gain but probabilistic loss. Price / availability / quality etc. expectations usually pre-determine our decision framework.

**Example**

You are willing to pay up to \$3 for a can of beer at the corner store. You are willing to pay \$8 for the same can for takeaway at a bar. Even if you use / need the beer the same way and they are at equal distance from your home, both open 24 hrs.

**Use**

Your offer needs to be presented in the best context for best price. Quality company, guaranteed gain, low risk loss, whatever. Evaluate all your own offers, and all the offers presented to you, in this context. This is also the basis for the "Power of Numbers" sales technique which uses numerical comparisons to the Seller's advantage.

## 19. Causality Illusion

**Definition**

Correlation  $\neq$  causality

**Example**

"We've always done it this way and it always worked" is not supporting evidence for doing it the same way again. Just because past actions correlated with something we cannot know if they actually caused the outcome.

**Use**

Particular attention needed here. Big Data analytics, AI, Predictive Modeling all rely on correlation analysis to forecast the future. This only works as long as correlation can be used instead of causality. If there is no causality support then correlation will break down if environmental factors change. Correlation analysis is a good tool, but only a 'fair weather friend'.

## 20. Group Think

**Definition**

"Crowd intelligence" - assuming that if a lot of people say the same thing it will be more valid.

**Example**

Lemming Effect. Irrational Exuberance. Antivaxers. If a thousand stupid people claim something stupid - it will still be stupid.

**Use**

Need particular attention during group discussions, e.g. in meetings or listening to focus groups. Strongly opinionated individuals can quickly shift the discussion in the wrong direction. Once everyone jumped on the bandwagon it is difficult to bring the discussion back to solid ground.

## 21. Illusion of Skill

**Definition**

When we attribute all success to human behaviour and ignore the circumstances.

**Example**

You cannot win the boat race if your boat is not fast enough. You cannot run 100 m under 10 sec unless your legs are long. You cannot be the best pianist in the world unless you have absolute hearing.

**Use**

Consider the impact of environmental factors in any activity. Ensure your people have the right talents / abilities for the job requirements -not only the skills and attitudes.

## 22. Attribution Error

### Definition

We often judge others on character but ourselves based on the situation.

### Example

If someone is always late it's because they are lazy and careless. I'm also late, but because I have to drop the kids to school first.

### Use

Very important to be aware of this bias, especially in a mixed cultural environment. Other cultures may define 'being on time', 'giving a good estimate', 'responding fast', 'explaining well' and many other things differently from expectations in our own culture.

## 23. Barnum Effect, Halo Effect

### Definition

We fill in missing specifics based on what was observed in other areas. We therefore create a 'full' picture which may not reflect actual reality.

### Example

"This smells luxurious". "He has a lot of tattoos, I know he is dumb and aggressive."

### Use

Fortune tellers use this bias (you fill in what you want to see into their stories). So do manufacturers (e.g. "clean smell connotation"). We need to be aware of it, test for it and filter it out when needed.

## 24. Innovation (Action) Bias

### Definition

We prefer action to inaction and prefer innovation to carrying on with the same thing - even when these make things worse.

### Example

Doctors sometimes have to prescribe harmless 'drugs' to hypochonders (using the **Placebo Effect**, not reviewed here) so that the patient feels something is done about their illness.

### Use

Make sure 'no change' is on your option list but make sure doing nothing is a well argued, conscious decision, not a 'default option'.

## 25. Backfire Effect

### Definition

When our core beliefs are challenged we tend to believe in them even more strongly

**Example**

When our core beliefs are challenged this can be taken as an attack on our personality or our tribal identity. In either case, we have to strengthen our defenses!

**Use**

Advertisers know you should not try to sell tobacco to a non-smoker, credit cards to someone who abhors borrowing money, luxury cognac to a teetotaler. Understand core beliefs and put your message into their context. The goal is small, incremental change, not a personality change. "If you drink, drink this..."

## 26. Loss Aversion

**Definition**

We always try to avoid losses first, because the negative impact of losing anything is stronger than the positive impact of gaining the same thing.

**Example**

Winning \$500 at roulette makes us relatively happy but losing the same amount feels devastating and upsetting.

**Use**

Communicate fear of losing something, rather than prospect of gaining something, to convince others. Be also aware that behaviour change won't happen unless fear of reprisal for doing things the new way is taken away.

## 27. Household Money Effect

**Definition**

The source of your money will influence how you will use.

**Example**

People 'gamble' or buy 'flirtatious' things (car, vacation) with bonus payments much more than they would with regular income earned.

**Use**

It's not enough to know who can afford your offer. You should also know where their money for it came from. Depending on the source, they may or may not spend it on your offer.

For more information on what biases may impact you and your business, and how to counter them effectively, contact us at CodeBreakers™, [info@codebreakers.co.hu](mailto:info@codebreakers.co.hu). We can help.