

DECISION-MAKING FOR TEAMS

HOW TO OVERCOME COGNITIVE BIASES

by Tobias Käfer

Software Architect MyWebsite Infrastructure

COGNITIVE BIAS?

Feels like:



source <http://stdaily.ghost.io/knowledge-matters/>

Bias arises from various processes that are sometimes difficult to distinguish. These include

source https://en.wikipedia.org/wiki/Cognitive_bias

- information-processing shortcuts (heuristics)

- noisy information processing (distortions in the process of storage in and retrieval from memory)

- the brain's limited information processing capacity

- emotional and moral motivations

- social influence

Biases can be distinguished on a number of dimensions.
For example,

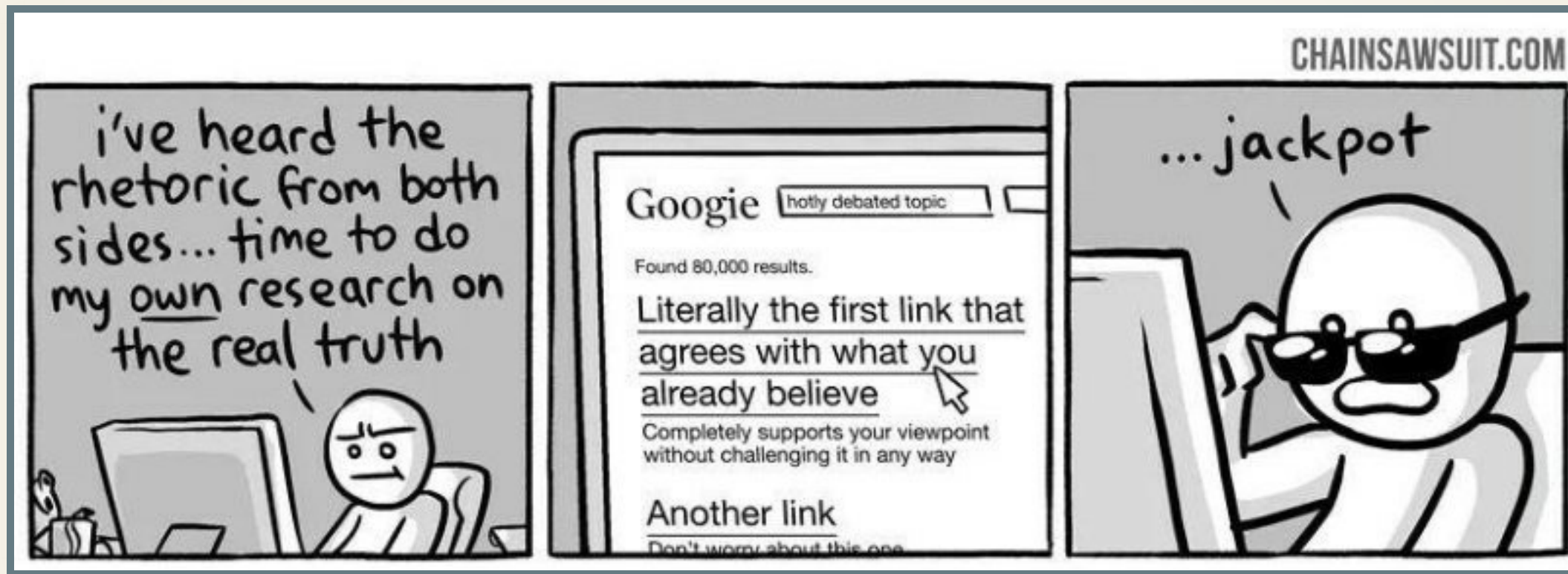
source https://en.wikipedia.org/wiki/Cognitive_bias

- there are biases specific to groups (such as the risky shift) as well as biases at the individual level.

- Some biases affect decision-making, where the desirability of options has to be considered (e.g., sunk costs fallacy).

- Others such as illusory correlation affect judgment of how likely something is, or of whether one thing is the cause of another.

- A distinctive class of biases affect memory, such as consistency bias (remembering one's past attitudes and behavior as more similar to one's present attitudes).



source <http://chainsawsuit.com/comic/2014/09/16/on-research/>

Some cognitive biases that influence decision making

source <https://www.translatemedia.com/us/blog-us/cognitive-biases-influence-decision-making/>

source <http://www.businessinsider.de/cognitive-biases-that-affect-decisions-2015-8>

source <http://www.businessinsider.de/cognitive-biases-2015-10>

Affect heuristic

Anchoring bias

Availability bias

Bandwagon-jumping

Blind spots

Choice-supportive bias

Clustering illusion

Confirmation bias

Conformity

Conservatism

Curse of knowledge

Decoy effect

Herding

Illusion of control

Information bias

The 'ostrich' effect

Outcome bias

Overconfidence

The placebo effect

Planning fallacy

Pro-innovation bias

Priming

Recency bias

Salience

Selective perception

Status quo bias

Stereotyping

Survival bias

Zero-risk bias

20 COGNITIVE BIASES THAT SCREW UP YOUR DECISIONS

1. Anchoring bias.

People are **over-reliant** on the first piece of information they hear. In a salary negotiation, whoever makes the first offer establishes a range of reasonable possibilities in each person's mind.

2. Availability heuristic.

People **overestimate** the **importance** of information that is available to them. A person might argue that smoking is not unhealthy because they know someone who lived to 100 and smoked three packs a day.

3. Bandwagon effect.

The probability of one person adopting a belief increases based on the number of people who hold that belief. This is a powerful form of **groupthink** and is reason why meetings are often unproductive.

4. Blind-spot bias.

Failing to recognize your own cognitive biases is a bias in itself. People notice cognitive and motivational biases much more in others than in themselves.

5. Choice-supportive bias.

When you choose something, you tend to feel positive about it, even if that **choice has flaws**. Like how you think your dog is awesome — even if it bites people every once in a while.

6. Clustering illusion.

This is the tendency to **see patterns in random events**. It is key to various gambling fallacies, like the idea that red is more or less likely to turn up on a roulette table after a string of reds.

7. Confirmation bias.

We tend to listen only to information that confirms our **preconceptions** — one of the many reasons it's so hard to have an intelligent conversation about climate change.

8. Conservatism bias.

Where people favor prior evidence over new evidence or information that has emerged. People were **slow to accept** that the Earth was round because they maintained their earlier understanding that the planet was flat.

9. Information bias.

The tendency to **seek information when it does not affect action**. More information is not always better. With less information, people can often make more accurate predictions.

10. Ostrich effect.

The decision to **ignore dangerous or negative information** by "burying" one's head in the sand, like an ostrich. Research suggests that investors check the value of their holdings significantly less often during bad markets.

11. Outcome bias.

Judging a decision based on the **outcome** — rather than how exactly the decision was made in the moment. Just because you won a lot in Vegas doesn't mean gambling your money was a smart decision.

12. Overconfidence.

Some of us are **too confident about our abilities**, and this causes us to take greater risks in our daily lives. Experts are more prone to this bias than laypeople, since they are more convinced that they are right.

13. Placebo effect.

When **simply believing** that something will have a certain effect on you causes it to have that effect. In medicine, people given fake pills often experience the same physiological effects as people given the real thing.

14. Pro-innovation bias.

When a proponent of an innovation tends to **overvalue its usefulness** and undervalue its limitations. Sound familiar, Silicon Valley?

15. Recency.

The tendency to weigh the **latest information** more heavily than older data. Investors often think the market will always look the way it looks today and make unwise decisions.

16. Salience.

Our tendency to focus on the **most easily recognizable features** of a person or concept. When you think about dying, you might worry about being mauled by a lion, as opposed to what is statistically more likely, like dying in a car accident.

17. Selective perception.

Allowing our expectations to **influence how we perceive** the world. An experiment involving a football game between students from two universities showed that one team saw the opposing team commit more infractions.

18. Stereotyping.

Expecting a group or person to have certain qualities without having real information about the person. It allows us to quickly identify strangers as friends or enemies, but people tend to **overuse and abuse** it.

19. Survivorship bias.

An error that comes from focusing only on surviving examples, causing us to **misjudge a situation**. For instance, we might think that being an entrepreneur is easy because we haven't heard of all those who failed.

20. Zero-risk bias.

Sociologists have found that **we love certainty** — even if it's counterproductive. Eliminating risk entirely means there is no chance of harm being caused.

SOURCES: Brain Biases; Ethics Unwrapped; Explorable; Harvard Magazine; HowStuffWorks; LearnVest; Outcome bias in decision evaluation, Journal of Personality and Social Psychology; Psychology Today; The Bias Blind Spot: Perceptions of Bias in Self Versus Others, Personality and Social Psychology Bulletin; The Cognitive Effects of Mass Communication, Theory and Research in Mass Communications; The less-is-more effect: Predictions and tests, Judgment and Decision Making; The New York Times; The Wall Street Journal; Wikipedia; You Are Not So Smart; ZhumalyWiki

BUSINESS INSIDER

source <http://www.businessinsider.de/cognitive-biases-that-affect-decisions-2015-8>

But is this really that bad to be biased?

Experiment time...

"JANE ELLIOT AND THE BLUE-EYED CHILDREN EXPERIMENT"

"THE ROBBERS CAVE EXPERIMENT - MUZAFER & SHERIF"

"THE THIRD WAVE EXPERIMENT - RON JONES"

"STANFORD PRISON EXPERIMENT - PHILIP ZIMBARDO"

But we aren't boyscouts, high school students or at
Stanford University, right?

But aren't we biased by saying this?

So how could we prevent biased decision-making in our daily work?

Any ideas?

Four problems that biases help us to address:

source <https://betterhumans.coach.me/cognitive-bias-cheat-sheet-55a472476b18>

Problem 1: Too much information.

- We notice things that are already primed in memory or repeated often.

- Bizarre/funny/visually-striking/anthropomorphic things stick out more than non-bizarre/unfunny things.

- We notice when something has changed.

- We are drawn to details that confirm our own existing beliefs.

- We notice flaws in others more easily than flaws in ourselves.

Problem 2: Not enough meaning.

- We find stories and patterns even in sparse data.

- We fill in characteristics from stereotypes, generalities and prior histories whenever there are new specific instances or gaps in information.

- We imagine things and people we're familiar with or fond of as better than things and people we aren't familiar with or fond of.

- We simplify probabilities and numbers to make them easier to think about.

- We think we know what others are thinking.

- We project our current mindset and assumptions onto the past and future.

Problem 3: Need to act fast.

- In order to act, we need to be confident in our ability to make an impact and to feel like what we do is important.

- In order to stay focused, we favor the immediate, relatable thing in front of us over the delayed and distant.

- In order to get anything done, we're motivated to complete things that we've already invested time and energy in.

- In order to avoid mistakes, we're motivated to preserve our autonomy and status in a group and to avoid irreversible decisions.

- We favor options that appear simple or that have more complete information over more complex, ambiguous options.

Problem 4: What should we remember?

- We edit and reinforce some memories after the fact.

- We discard specifics to form generalities.

- We reduce events and lists to their key elements.

- We store memories differently based on how they were experienced.

Great, how am I supposed to remember all of this?

1. Information overload sucks, so we aggressively filter.
Noise becomes signal.

2. Lack of meaning is confusing, so we fill in the gaps.
Signal becomes a story.

3. Need to act fast lest we lose our chance, so we jump to conclusions. Stories become decisions.

4. This isn't getting easier, so we try to remember the important bits. Decisions inform our mental models of the world.

Sounds pretty useful! So what's the downside?

1. We don't see everything. Some of the information we filter out is actually useful and important.

2. Our search for meaning can conjure illusions. We sometimes imagine details that were filled in by our assumptions and construct meaning and stories that aren't really there.

3. Quick decisions can be seriously flawed. Some of the quick reactions and decisions we jump to are unfair, self-serving and counter-productive.

4. Our memory reinforces errors. Some of the stuff we remember for later just makes all of the above systems more biased and more damaging to our thought processes.

So... really, how do I avoid of being biased?

Nothing we do can make the 4 problems go away.

Cognitive biases are just tools, useful in the right contexts, harmful in others.

They're the only tools we've got and they're even pretty good at what they're meant to do.

You can't avoid being biased - You are biased.

You need to deal with being biased.

Be aware of your biases.

Reflect yourself about your own biases.

Try to understand which biases are driving the people
around you.

Be relaxed about the biases of others.

Give others hints about their cognitive biases.

Talk about cognitive biases with your colleagues, friends, family etc. to find out what is driving them in their decisions.

Cognitive biases are dynamic as the situations, discussions, decisions etc. are - people could change strategies and minds, so biases are not static, but contextual.

So... Questions?

