

Heuristics

A simple procedure that helps find adequate, though often imperfect answers to difficult questions. The word comes from the same root as "eureka".¹

Representativeness Heuristic

To judge something as belonging to a class based on a few salient characteristics.²

Representativeness Heuristic examples:

1. reading a description of an individual as "shy", then guessing his profession to be a librarian.

<i>Think again:</i> An application of Bayes' Theorem: evaluate the base rate of librarians in the current population (vs. other professions).

2. rolling a die 5 times to get a 1-2-3-4-5 sequence is more likely (representative) than getting 6-6-6-6-6.
--

<i>Think again:</i> Statistical probability: these 2 sequences are equally likely to result from 5 throws of a die.

Availability Heuristic

To assess the frequency of a class or probability of an event by the ease with which instances can be brought to mind.²

Availability Heuristic examples:

1. investors may judge the quality of an investment based on information that was recently in the news
--

<i>Think again:</i> Apply usual diligent research

2. a list of famous names seems more numerous than an equal-sized list of unfamiliar names.

<i>Think again:</i> try to double-check the lists, or use info-processing tools.
--

Anchoring Bias

Different starting points yield different estimates, which are biased toward the initial values.⁴

Anchoring Bias examples:

1. A person from the west coast knows that a house costs about \$300,000 in his home town. While considering a move to east coast, he observes some homes in the range of about \$200,000, and is positively influenced by the prices.

Think again: the \$200,000 price may or may not be a good value in the completely different east coast neighborhood. Continue to research.

2. Managers of a company begin their assessments of their staff's quarterly performance, by using the assessment for each employee from the previous quarter as a starting point.

Think again: Performance should be evaluated with an equal (likely zero) starting point for all in each evaluation period.

Endowment Effect

The tendency for people to value things they own more highly just because they already possess them.³

Endowment Effect examples:

1. a reluctance to sell a rare bottle of wine, even at a significantly higher price than paid

Think again: value in utility may be higher than value in exchange. But is that the case in this instance?

2. An employee is indifferent between two offices available to her in the new building. After the office allocation is announced, though, she is unwilling to trade for the other.

Think again: There could easily be other factors. But be clear and consistent in evaluations.

Heuristics Quick Reference

Halo Effect

A tendency to like everything about a person (even things not observed).⁷

Halo Effect examples:

1. One classmate is known to get excellent grades in biology, and another is an excellent performer in theater. For our project in programming class, we preferred the former.

Think again: Without more information, this may be the halo effect in action. Ideally, get some more relevant information (in the subject of programming) before deciding.

2. A job candidate receiving a strong recommendation from a trusted source can easily be seen with a halo effect. Although the source may have a valid reason (or reasons) for the recommendation, is it the most important in this scenario?

Think again: Consider the candidate with your own criteria at a minimum, before factoring in the recommendations.

Hindsight Bias

In hindsight, people consistently exaggerate what could have been known in foresight.⁶

Hindsight Bias examples:

1. sports fans often may feel that they "have a hunch" about the game's result.

Think again: could they be wrong just as often when they have the same feelings?

2. it's easy for investors to get this bias, especially with selective memory (not recalling as many errant choices as successful ones).

Think again: data is your friend. Get a lot of it, use it in advance, and review it again afterwards to calibrate your methods.

Framing Effect

*the changes of preferences that are sometimes caused by inconsequential variations in the wording of a choice problem.*⁵

Framing Effect examples:

1. Marketing: a feature is available which when provided by default, and giving customers the choice to opt-out of it and accept a discount results in more adoption than when not provided by default, but customers are given the choice to opt-in and accept a surcharge.

Think again: Many consumers see through these tricks by now. Still, there are plenty of variations and it takes time to understand them. For marketers: use it intelligently, but don't overdo it.

2. In medical fields, framing a scenario with probabilities of "mortality" yields different choices than framing the same probabilities in terms of "survival".

Think again: reframe the reference point, for example by imagining a different reference point.

Confirmation Bias

*people tend to seek out confirming evidence alone when drawing conclusions about simple tasks.*⁸

Confirmation Bias examples:

1. Crime investigators may fall into this trap, especially if under pressure to find a suspect guilty (or innocent). They may follow up clues that confirm their suspicion, without following up other clues with the same rigor.

Think again: As with many of these heuristics, overcoming them generally requires doing work - the more the better.

2. In the workplace, a worker may select only a subset of data that supports the agenda or conclusions of their report. If other valuable or contradictory data is left out, it looks like a form of confirmation bias.

Think again: Fit your conclusion to the data, not vice versa. To increase confidence, gather more data, from different sources if possible.

Heuristics Quick Reference

1. Daniel Kahneman, *Thinking, Fast and Slow*, 2011.
2. Daniel Kahneman and Amos Tversky, *Science*, 1974.
3. Thaler, Richard, *Journal of Economic Behavior and Organization*, 1980.
4. Slovic and Lichtenstein, 1971.
5. Daniel Kahneman and Amos Tversky, *American Psychologist*, 1984
6. Fischhoff, 1975.
7. Daniel Kahneman, *Thinking, Fast and Slow*, 2011.
8. Peter C. Wason *Quarterly Journal of Experimental Psychology*, 1960.