


ASCPT Session: How Could Debunking Biases in R&D Decisions Lead to More Equitable Healthcare?

ASCPT 2023 Annual Meeting - Pre-meeting survey

Decades of research have demonstrated that our judgement and decision-making can be affected by common biases. There are several types of biases and examples that are briefly summarized and exemplified here:.

type and examples of biases

 <p>Action oriented biases</p>	<p>drive us to act less thoughtfully than we should:</p> <ul style="list-style-type: none"> • Overconfidence • Excessive optimism • Overreliance on an inside view, competitor neglect
 <p>Interest biases</p>	<p>arise in the presence of conflicting incentives:</p> <ul style="list-style-type: none"> • Misaligned individual incentives • Inappropriate attachments • Misaligned perception of shared goals (e.g., silo thinking)
 <p>Social biases</p>	<p>arise from the preference for harmony over conflict:</p> <ul style="list-style-type: none"> • Groupthink • Sunflower management
 <p>Pattern recognition biases</p>	<p>lead us to recognize patterns even where there are none:</p> <ul style="list-style-type: none"> • Confirmation bias • Champion bias • Framing bias • Power of storytelling • Management by example • False analogies, e.g., hindsight bias • Availability (recency) bias • Representativeness bias
 <p>Stability biases</p>	<p>create a tendency toward inertia in the presence of uncertainty:</p> <ul style="list-style-type: none"> • Anchoring, insufficient adjustment • Sunk-cost fallacy • Loss aversion • Status quo bias

a closer look at selected biases

<p>Overconfidence - Overestimating our skill level relative to others', leading us to overestimate our ability to affect future outcomes, take credit for past outcomes, and neglect the role of chance.</p> <p>Excessive optimism - The tendency for people to be overoptimistic about the outcome of planned actions, to overestimate the likelihood of positive events, and to underestimate the likelihood of negative ones.</p>
<p>Misaligned individual incentives - Incentives for individuals in organizations to adopt views or to seek outcomes favorable to their unit or themselves, at the expense of the overall interest of the company.</p> <p>Inappropriate attachments - Emotional attachment of individuals to people or elements of the business (such as legacy products or brands), creating a misalignment of interests.</p>
<p>Groupthink - Striving for consensus at the cost of a realistic appraisal of alternative courses of action.</p> <p>Sunflower management - Tendency for groups to align with the views of their leaders, whether expressed or assumed.</p>
<p>Confirmation bias - The overweighting of evidence consistent with a favored belief, underweighting of evidence against a favored belief, or failure to search impartially for evidence.</p> <p>Framing bias - The tendency to decide on options based on whether the options are presented with positive or negative connotations such as a loss or as a gain.</p> <p>Availability bias - Not sufficiently accounting for alternative views but rather relying on immediate examples that come to mind when evaluating a specific topic, concept, method, or decision.</p>
<p>Anchoring, insufficient adjustment - Rooting oneself to an initial value, leading to insufficient adjustments of subsequent estimates.</p> <p>Sunk-cost fallacy - Paying attention to historical costs that are not recoverable when considering future courses of action.</p> <p>Loss aversion - The tendency to feel losses more acutely than gains of the same amount, making us more risk-averse than a rational calculation would suggest.</p>

Source: Adapted from Lovallo and Sibony

- 1) What best describes your professional affiliation
 - a. Academia
 - b. Government
 - c. Industry
 - d. Consulting
 - e. Healthcare
 - f. Other
- 2) Are you directly involved in decision making? Please check all that apply:
 - a. project progression/termination
 - b. project investments
 - c. grants
 - d. regulatory decision making
 - e. therapeutic use
 - f. patient access
 - g. resourcing
 - h. HR related (e.g. hiring, promotion, bonus)
 - i. Other
 - j. No

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Action-oriented biases drive us to take action less thoughtfully than we should. Examples are **overconfidence** (overestimating our skill level relative to others' leading us to overestimate our ability to affect future outcomes, take credit for past outcomes, and neglect the role of chance) and **excessive optimism** (the tendency for people to be overoptimistic about the outcome of planned actions, to overestimate the likelihood of positive events, and to underestimate the likelihood of negative ones)

- 3) Have you experienced or observed **overconfidence** bias in your organization?
 - a. Often
 - b. Sometimes
 - c. Rarely
 - d. Never
- 4) Have you experienced or observed **excessive optimism** bias in your organization?
 - a. Often
 - b. Sometimes
 - c. Rarely
 - d. Never

Interest biases arise in the presence of conflicting incentives. Examples are **misaligned individual incentives** (incentives for individuals in organizations to adopt views or to seek outcomes favorable to their unit or themselves at the expense of the overall interest of the company) and **inappropriate attachments** (emotional attachment of individuals to people or elements of the business (such as legacy products or brands), creating a misalignment of interests)

- 5) Have you experienced or observed **misaligned individual incentive** bias in your organization?
 - a. Often
 - b. Sometimes
 - c. Rarely
 - d. Never
- 6) Have you experienced or observed **inappropriate attachment** bias in your organization?
 - a. Often
 - b. Sometimes
 - c. Rarely
 - d. Never

Imagine you are preparing for the outbreak of a disease which is expected to kill 600 people. If Program A is adopted, 200 people will be saved. If Program B is adopted, there is a 1/3 probability that 600 people will be saved, and 2/3 probability that no people will be saved.

- 7) Which program would you choose?
 - a. Program A
 - b. Program B

Stability biases create a tendency towards inertia in the presence of uncertainty. Examples are **anchoring** (Rooting oneself to an initial value, leading to insufficient adjustments of subsequent estimates), **sunk-cost fallacy** (paying attention to historical costs that are not recoverable when considering future courses of action) and **loss aversion** (the tendency to feel losses more acutely than gains of the same amount, making us more risk-averse than a rational calculation would suggest)

- 8) Have you experienced or observed **anchoring** bias in your organization?

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- a. Often
 - b. Sometimes
 - c. Rarely
 - d. Never
- 9) Have you experienced or observed **sunk-cost fallacy** in your organization?
- a. Often
 - b. Sometimes
 - c. Rarely
 - d. Never
- 10) Have you experienced or observed **loss aversion** bias in your organization?
- a. Often
 - b. Sometimes
 - c. Rarely
 - d. Never

Imagine you are responsible for deciding on an \$100 million investment that has some chance of returning, in present value, \$400 million over 3 years, with some chance of losing the entire investment in the first year.

- 11) What is the highest probability of loss you would tolerate and still proceed with the investment (assuming there are no other external factors)?
- 1) More than 60%
 - 2) Between 41 and 60%
 - 3) Between 21 and 40%
 - 4) Between 1 and 20%
 - 5) Less than 1%

Social biases arise from the preference for harmony. Examples are **groupthink** (striving for consensus at the cost of a realistic appraisal of alternative courses of action) and **sunflower management** (tendency for groups to align with the views of their leaders, whether expressed or assumed)

- 12) Have you experienced or observed **groupthink** bias in your organization?
- a. Often
 - b. Sometimes
 - c. Rarely
 - d. Never
- 13) Have you experienced or observed **sunflower management** bias in your organization?
- a. Often
 - b. Sometimes
 - c. Rarely
 - d. Never

Imagine you are preparing for the outbreak of a disease which is expected to kill 600 people. If Program C is adopted, 400 people will die. If Program D is adopted, there is a 1/3 probability that nobody will die and 2/3 probability that 600 people will die.

- 14) Which program would you choose?
- a. Program C

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b. Program D

Pattern recognition biases lead us to recognize patterns even when there are none. Examples are **confirmation bias** (the overweighting of evidence consistent with a favored belief, underweighting of evidence against a favored belief, or failure to search impartially for evidence), **framing bias** (the tendency to decide on options based on whether the options are presented with positive or negative connotations such as a loss or as a gain), and **availability bias** (not sufficiently accounting for alternative views but rather relying on immediate examples that come to mind when evaluating a specific topic, concept, method, or decision)

15) Have you experienced or observed **confirmation** bias in your organization?

- a. Often
- b. Sometimes
- c. Rarely
- d. Never

16) Have you experienced or observed **framing** bias in your organization?

- a. Often
- b. Sometimes
- c. Rarely
- d. Never

17) Have you experienced or observed **availability** bias in your organization?

- a. Often
- b. Sometimes
- c. Rarely
- d. Never

18) Optional (open text): Please provide an example of a bias and its impact on the decision at hand that you have observed in the professional setting

There are several mitigation strategies that can be considered in reducing the unwanted impact of these behavioral biases. Some examples (not exhaustive) are 1) using external experts without a stake in the project, 2) taking a look at the wider portfolio rather than individual projects, 3) separation of accountability for investment decision and execution, 4) forced ranking of projects, 5) mandatory contradictory points of view (which is also called: red team / blue team).

19) Are mitigation strategies being used in your organizational decision making?

- 6) Often
- 7) Sometimes
- 8) Rarely
- 9) Never

20) Optional (open text): Please provide an example of an effective mitigation measure that you have observed in the professional setting