

MANAGERIAL DECISION BIASES

The theory's central management insight is that biases can lead to irrational decisions that are often times outside of the individual's own awareness.

Decision biases are systematic and predictable deviations from rational thoughts and behaviors. Such biases span all steps of the decision making process from defining the problem to weighting the criteria to computing the optimal solution. Within the past five decades, the study of decision biases has taken primarily a descriptive approach toward understanding ways in which individuals are biased. Simon's research on bounded rationality established one of the earliest frameworks on biases in decision making, suggesting people's judgments depart from rationality due to three main factors: 1) a dearth of crucial information or criteria for understanding the problem; 2) time and cost constraints in obtaining higher quality information; 3) perceptual errors that limit accuracy in calculating a solution. Since then, researchers have focused on how individuals are biased by the use of heuristics. We will overview this work, but also give attention to more recent work on bounded decision making, misattribution, emotions, and recent attempts to prevent or eliminate such biases.

*

(FUNDAMENTALS)

Heuristics

Perhaps the most widely-researched biases stem from the study of heuristics, which are mental guidelines or "rules of thumb" used to make reach a solution, particularly when an exhaustive search is impractical. Kahneman and Tversky noted that three main heuristics—availability, representativeness, and anchoring—can lead to irrational, suboptimal, and sometimes contradictory decisions. The availability heuristic suggests that individuals assess the frequency, probability, or likely causes of an event based on the degree to which instances or occurrences of that event are readily available in memory. In particular, events that are more recent, vivid, or easier to recall can heavily influence subsequent decisions. For instance, human resource managers may be more likely to hire memorable individuals, who tend to have similar background, culture and education to themselves.

The representativeness heuristic encapsulates how people tend to look for traits that correspond to previously formed stereotypes and use this similarity as a proxy for misguided probabilistic thinking. Dependence on similarity to make inferences may lead to insensitivity to base rates and small sample size, misconceptions of chance and regression to the mean, and the conjunction fallacy. Entrepreneurs ignoring base rates will overestimate the probability of their businesses achieving success because they do not take into account the base rate for business failure. The belief that small sample sizes are sufficient to draw inferences about a larger population is

another bias that results from use of the representativeness heuristic. As a result, managers testing a product with a small sample of individuals may overestimate the degree to which the small sample is representative of the entire population of consumers, and thus, may too readily make product decisions based on this inference.

Begetting misconceptions of chance, the representativeness heuristic often results in faulty predictions about future events. Individuals may believe that the sequence of coin flips H-H-H-H-H-H is much more likely than the sequence H-T-H-T-H-T, even when the probabilities of both sequences are identical, because the latter appears more random and also has an equal representation of both heads and tails. Furthermore, ignoring that each flip is independent of one another, individuals are much more likely to predict that the subsequent flip will be tails when asked about first sequence than the second sequence. These misconceptions of chance are seen especially in many sports fans' belief of the "hot hand" phenomenon: players have a better chance at making a shot or scoring if they have had a consecutive series of shots or points. However, such phenomenon does not exist as research has shown that the immediately prior shot does not affect the outcome of the subsequent shot. Biases in predictions may also result from neglecting the principle of "regression to the mean." That is, individuals overweigh data from past performance in making their predictions of future performance, which is particularly problematic for outcomes that are heavily dependent on chance. Investment managers may mistakenly expect that funds that have done well in the past may continue to do well in the future.

Using similarity or representativeness to judge the probability of an event can also lead to the conjunction fallacy, which occurs when individuals believe the subset is more likely than the larger set. This fallacy typically arises when the conjunction of multiple events or qualities is more vivid than any one of the qualities alone and biases judgments in all fields from international relations to medicine. For instance, when individuals are asked to estimate the incidences of earthquakes in California versus North America, their answers likely imply that California has more earthquakes than North America, a statistical improbability.

Research has shown that anchors, including defaults, frames, and reference points, also serve as heuristics, biasing individuals' answers to questions even when the anchors are irrelevant to the questions at hand. Once individuals encounter these anchors, individuals generally fail to adjust sufficiently, even if these anchors are irrelevant to the context. Such effects are particularly well-documented in literature on negotiations that show the initial offer to the opponent anchors the final deal, especially when there is ambiguity from the opponent's perspective over the true value of the negotiated object.

A number of other biases have also been summarized from this literature, including the confirmation bias, which is based on individuals' natural tendency to prove a hypothesis by only searching for confirming evidence, not disconfirming evidence. The Wason selection task illustrates this bias: participants are shown four cards, two cards with the numbers 3 and 8 and two cards with red and brown colors facing upward, and are asked to provide the two cards that can sufficiently test the statement that if a card shows an even number on one face, then its opposite face is red. While most individuals are correct to pick 8, they are usually incorrect in picking red—instead of brown—as the second card, neglecting evidence that could invalidate the

statement. Hiring managers often face problems that arise from confirmation bias as they only follow up on the performance of those they hired, not those they did not hire.

Bounded Awareness, Ethicality, and Willpower

Whereas research on bounded rationality and heuristics generally focuses on how individuals depart from rationality when they are aware of the information provided, research on bounded awareness targets how people fail to notice or focus on useful, observable, and relevant data. In auction scenarios, bidders often fail to realize that placing the highest bid in order to win an auction may in fact be a curse as the winning bid is likely greater than the item's true value. Inattention blindness refers to the phenomenon in which individuals do not see what they are looking for, even when they are looking directly at it. Similarly, individuals are subject to change blindness, which describes how individuals fail to notice changes in their environment, particularly when the change is gradual. In the domain of ethical decision making, individuals are more likely to make unethical decisions when the ethical degradation is gradual, rather than sudden.

Bounded ethicality refers to the psychological processes that lead people to engage in ethically questionable behaviors without being aware that they are doing anything wrong. Research suggests that individuals often implicitly associate positive characteristics to in-groups and negative characteristics towards out-groups, or groups to which these individuals do not belong. Such research may be particularly relevant for hiring managers, who may be expressing favoritism toward their in-group members and as a result, unknowingly and indirectly discriminating against applicants outside the in-group. Additional research on bounded ethicality suggests that individuals who were depleted of their self-regulatory resources were more likely to cheat impulsively than individuals who were not depleted.

Beyond ethics domains, other biases stem from individuals' bounded willpower, which refers to the over-weighting of the present and near future, and under-weighting of future states. Because individuals often discount the future, they consequently take actions that directly conflict with their own long-term interests. Such bounds in willpower help explain the reason individuals procrastinate or neglect to save for the future. Research suggests that organizations also exhibit bounded awareness when they fail to use cost-efficient building materials because they are expensive in the short run.

Misattribution

Misattribution refers to individuals' biased judgments about the causes or associations of social phenomenon. The fundamental attribution error describes individuals' tendency to judge other's behaviors as a reflection of their stable disposition and one's own behaviors as a result of situational factors. Additionally, individuals generally attribute positive behaviors to dispositional factors and negative behaviors to situational factors for people they like; for those they dislike, individuals are more likely to attribute positive behaviors to situational factors, and negative behaviors to immutable dispositional factors. Individuals also tend to believe that their own behaviors are more variable than others' behaviors. Such errors in judgment could exacerbate conflict among individuals in organizations, especially if individuals perceive others'

negative behaviors as part of their immutable disposition. Another form of misattribution bias is the self-serving or egocentric bias, which describes how people claim to have taken more responsibility than other contributors attribute to them. As a result, individuals in a team setting are likely to over-claim credit for the work they have accomplished, particularly when the outcome is positive.

Emotions

Just as heuristics and bounded awareness can lead to biases, emotions can also greatly impact the decision making process and can lead individuals to make irrational or suboptimal decisions. Research on negative emotions suggests that fear triggers risk-averse behaviors, whereas anger incites risk-seeking behaviors and lead individuals to be overconfident and optimistic about risky decisions. Ironically, those who are angry perceive themselves to have lower risk of health issues such as heart disease, even though they are actually the individuals who are at heightened risk of heart disease.

Research on how emotions affect managerial decision biases is particularly relevant in the context of negotiations, where outcomes can vary widely. For instance, anger is one of the main explanations for rejecting unfair offers, even if accepting the unfair offer is monetarily more optimal than the alternative. Findings on positive emotions suggest that managers strategically displaying positive emotions are more likely to close a deal and gain concessions from the other party in distributive settings. Even though negotiators make more extreme demands when facing an opponent strategically displaying negative—rather than positive or neutral—emotions, these negotiators are also more likely to concede to an angry opponent than to a happy one.

*

(IMPORTANCE)

Although research on managerial decision biases often focus on negotiation and hiring decisions, scholars have shown that biases exist in almost every area of managerial life, including, but not limited to, employee evaluations, team performance, and strategic planning. For example, managers can overestimate sales of a particular product due to the desire to look for confirming evidence of product success or over-attribute work to the individual who is most visible on a particular project. Studying these biases is particularly important within the management field as decision biases are pervasive and can have large impact on the structure, function, and composition of organizations.

Given that biases are widespread, how can modern managers prevent them from influencing the decision-making process? In recent years, a growing number of researchers have been focusing more on how to design choice sets that ultimately nudge individuals toward the more optimal choices. For example, if enrollment in 401(k) plans is suboptimal, then managers could make enrollment in these plans the default option. However, designing the optimal plan is not straightforward. Default enrollment into 401(k) plans for employees appear to dramatically increase enrollment numbers; however, these plans can also lead employees to anchor at low, sub-optimal default savings rates, especially problematic for those who would have otherwise chosen high savings rates under a system without a default choice. Such findings illustrate that

further research is needed to determine exactly how choice architectures can be optimally designed, especially when the best decision differs for each individual. Future directions of this research could be particularly relevant for managers as they design the choice architecture to curtail the rate of errors in decision making within their organizations.

Beyond choice architecture as a means of reducing bias in decision making, scholars suggest that obtaining the perspective of an outsider who does not have an economically or emotionally vested interest in obtaining a particular outcome can curtail irrational decision making. Furthermore, there is some evidence that simply being aware of how individuals are biased can lead managers to make more rational decisions.

-- Ting Zhang and Max H. Bazerman

See also:

Decision Making Processes; Decision Making Styles; Decision Support Systems; Intuitive Decision Making; Strategic Decision Making; 'Unstructured' Decision Making; Bounded Rationality and Satisficing

Further Readings:

1. Bazerman, M. H., & Moore, D. A. (2008). *Judgment in managerial decision making* (7th ed.). Hoboken, NJ: John Wiley & Sons.
2. Einhorn, H. J., & Hogarth, R. M. (1978). Confidence in judgment: Persistence of the illusion of validity. *Psychological Review*, 85(5), 395-416.
3. Gino, F., & Margolis, J. D. (2011). Bringing ethics into focus: How regulatory focus and risk preferences influence (Un)ethical behavior. *Organizational Behavior and Human Decision Processes*, 115(2), 145-156.
4. Lerner, J. S., & Keltner, D. (2001). Fear, anger, and risk. *Journal of Personality and Social Psychology*, 81(1), 146-159.
5. March, J. G., & Simon, H. A. (1958). *Organizations*.
6. Milkman, K. L., Chugh, D., & Bazerman, M. H. (2009). How Can Decision Making Be Improved? *Perspectives on Psychological Science*, 4(4), 379-383.
7. Ross, M., & Sicoly, F. (1979). Egocentric biases in availability and attribution. *Journal of Personality and Social Psychology*, 37(3), 322-336.
8. Simon, H. A. (1957). *Models of man; social and rational*.
9. Thaler, R. H., & Sunstein, C. R. (2008). *Nudge: Improving decisions about health, wealth, and happiness*: Yale Univ Press.
10. Tversky, A., & Kahneman, D. (1974). Judgment under Uncertainty: Heuristics and Biases. *Science*, 185(4157), 1124-1131.