

DEBIAS

By Design

A Leader's Guide to Thinking Errors
& Better Decision Making



MARTIN J. EPPLER | CHRISTIAN MUNTWILER
FABIAN BUDER | MATTHIAS UNFRIED

DEBIAS

By Design

A Leader's Guide to Thinking Errors
& Better Decision Making

TABLE OF CONTENTS

Chapter 1

Introduction: Debiasing Your Decision by Design **06**

Chapter 2

A Bias Tutorial **14**

2.1. Background Factors That Drive Cognitive Biases in Decision Making **19**

2.2. A Typology of Cognitive Biases **26**

Chapter 3

Beware of the Bias Blind Spot **40**

3.1. Spotting Biases in Decision-Making Behavior at Work **43**

3.2. The Bias Blind Spot **50**

3.3. Decision Styles and Cognitive Biases **53**

3.4. Bias Susceptibility and Bias Blind Spot by Decision Styles **55**

3.5. Summary **60**

Chapter 4

The TUNER Approach to Debiasing Decisions **66**

4.1. The Decision TUNER Approach in Overview **69**

4.2. Decision TUNER Debiasing Tools **75**

Chapter 5

Conclusion and Outlook – Beware of Biases in Hybrid Decision Making **90**

References

98

TABLE OF FIGURES

Figure 1: Boundedness of Rationality in Decisions	23
Figure 2: Cognitive Biases and Bounded Rationality in the Context of Strategic Decision Making	25
Figure 3: The 5 Generic Steps of a Decision-Making Process	27
Figure 4: Share of Participants Reporting to Have Observed a Certain Bias in the Decision-Making Behavior of Others	48
Figure 5: Share of Participants Reporting to Have Observed a Certain Bias in Their Own Decision-Making Behavior	49
Figure 6: Reported Bias Blind Spots (in Percentage Points), i.e., the Number of Respondents who Observed a Certain Bias in Others' Decision-Making Behavior Minus the Number of Respondents Observing a Certain Bias in Their Own Decision-Making Behavior	51
Figure 7: Susceptibility to Bias Blind Spots Per Decision Style (i.e., Participants in the Top Quartile of each Decision Style). Note: White means no blind spot.	59
Figure 8: Overview of Debiasing Techniques	64
Figure 9: Three Types of Intuitions That Should be Distinguished in Decision Making	74
Figure 10: A Sample Decision Timeline To Surface Systematic Decision Biases and Debiasing Measures	76
Figure 11: Example of a Decision Journal Entry	77
Figure 12: Example of a Decision Scorecard for Bias Tracking and Reviewing	78
Figure 13: A First Step in Unlearning Is Eliciting Your Current (Suboptimal) Decision Process	79
Figure 14: An Example of a Rerouting Diagram	80
Figure 15: A Template for New Views: Looking at the Decision Consequences in Three Time Horizons	81
Figure 16: Examples of Decision Personas as Aids for Perspective Switching	82
Figure 17: Example of an Emotion Inventory During an Investment Decision	84
Figure 18: Example of an Emotion Checkboard for an Important Decision	85
Figure 19: Example of a Decision Pathway	86
Figure 20: Example of a Decision Checkpoint Definition	87

The background features a complex, abstract geometric pattern. It consists of various overlapping shapes in shades of green, ranging from dark forest green to light lime green. These shapes are separated by white lines, creating a fragmented, crystalline appearance. The overall effect is modern and dynamic.

CHAPTER 1

INTRODUCTION:
DEBIASING YOUR
DECISION BY
DESIGN



No to laugh, not to lament,
not to detest, but to
understand.

- Baruch de Spinoza



Welcome to the *Debias by Design* book. The fact that you are reading this introduction must mean that you already have a heightened sense of awareness regarding biases and understand the great importance—and detrimental effect—that they have on our creativity, planning, decision making, and learning (to name but a few domains that they affect).

You may have already come across magazine articles, newspaper pieces, blog posts, or presentations that mention how our brain takes mental shortcuts—so-called heuristics—which may lead to optimal decisions but may deviate from rationality and thus lead to cognitive biases. This book will take this understanding to the next level and—perhaps more importantly—will equip you with specific countermeasures against detrimental biases, especially those that you are most vulnerable to.

Care for a few dive-in examples? Let's frontload the book with a set of concrete examples to bring biases alive and show their relevance.

Consider the following situations at work:

1. You have to come up with novel ways of winning customers.
2. You must decide which people should make up a team.
3. A colleague asks you to help with a difficult problem and what your take on it would be.
4. A machine that you operate has broken down and you need to find the faulty part fast.
5. You are asked to decide whether to continue funding a problematic project or not.
6. A major corporate initiative has failed and you are asked to analyze how this happened.
7. You need to explain your company's strategy to your staff.
8. Your boss asks you to assess how long a new system will take to be set up and running.

What do these diverse challenges have in common? They are all constellations where you might be susceptible to biases affecting your reasoning. Here is how biases may affect your reactions to these tasks:

1. When trying to come up with novel ways to win customers, you may be stuck in the current way of doing so (the status-quo bias) or simply replicate what others are doing (the herding bias). Because of your biases, you may fail to come up with something new and useful.
2. When allocating people to a team, you may favor those who you know well or who are similar to you (in-group bias) instead of choosing the people with the best fit for the task. This will lead to an ineffective team and a higher risk of failure.
3. When helping out a colleague, you may be tempted to overestimate your own understanding of his or her situation or your own knowledge in the domain (overconfidence bias). You may thus give advice that you're not in a position to give and make things worse rather than better.
4. When finding the faulty part in a complex machine, you may just look for indicators that confirm your initial assumptions and miss important cues for other parts (confirmation bias). You may waste important time or forgo your chance of finding the solution altogether.
5. When deciding the fate of a problematic project, you may decide to continue it despite it being very unlikely to succeed simply because you have already invested so much time, money, energy, or personal commitment into it (sunk-cost bias). You may thus risk wasting even more money and time for a hopeless cause.
6. Assessing a failed corporate initiative, you may fall into the outcome bias and only look at things that went wrong instead of looking at the general picture with a balanced view. This forgoes the chance to look at things objectively and learn from them fully.
7. When explaining a strategy to your staff, you may forget how difficult that strategy actually is to comprehend (as you have been working on it for a while) and explain it in very difficult terms to your colleagues. That is the so-called curse of knowledge at

work. It will put the success of the entire strategy at risk, as strategy execution also depends on the staff's understanding of the strategy.

8. When assessing the time needed to develop a system, you may be overly optimistic and neglect some of the details of such a task and thus indicate too short a time span (this is the so-called planning fallacy). As a consequence, the resulting plan and milestones will be unrealistic and lead to stress and the misallocation of resources.

These are simple yet representative examples to illustrate the ubiquity of biases in business and their destructive potential. It doesn't take much to build a basic awareness of biases, and doing so is a first step toward better decisions. If your job involves making many consequential decisions, then systematic debiasing must be a top priority. *Debias by Design* is such a systematic debiasing approach. It is a concise and applicable guide to rid yourself of thinking traps and help yourself, your team, and your organization make better decisions. The book will not only help you have a better awareness of biases at work. It will give you a simple and actionable mnemonic—the Decision TUNER—to consistently reduce the likelihood of biases affecting you negatively

Besides the tools and techniques and the many examples of debiasing, this book also offers a wealth of evidence on which biases really matter for managers and professionals. Our own survey among 500 managers (and their bias rankings) gives you a sense of where to focus when bias-checking your decisions. This survey also revealed that debiasing is not yet done systematically, as more experienced managers give more weight to it than less experienced ones. Why not learn from this experience and make debiasing a priority for yourself as well? To help you do so, we take a design approach in this book.

So why is this book called *Debias by Design*? There are two main reasons.

First, design designates a planned, deliberate, and systematic effort to achieve an outcome. In our context of reasoning and decision making, this deliberate effort strives to reduce bias from your decision making by building debiasing routines and devising



a decision design that allows you to be aware of your biases and counteract them whenever they surface.

Second, as design is also a highly visual practice, we strongly believe that visualization, the tangible, graphic representation of your thoughts, allows you to better keep your biases in check. In fact, you will find numerous simple visual techniques in this book (especially in chapter 4) that can help you reduce your biases. Throughout the book, we make use of illustrations to illuminate and clarify biases. We have not only visualized the most important biases in a simple and accessible graphic format (using just two arrows at a time); we have also represented our empirical findings about biases in management graphically so that you can gain an overview quicker and so that our results may be more memorable and hence actionable in everyday working contexts.

In chapter 2, we provide an instructive bias tutorial that gives a systematic overview on the need-to-know biases and how they come about. If you want to improve your bias literacy, then this is the chapter on which you should focus first.

Chapter 3 then shows which of these biases matter the most in the view of today's executives. It also relates the biases to managerial decision styles and thus sheds lights on the question of who is particularly prone to fall into certain biases. This chapter also shows the current status of debiasing practices and their deployment in organizations. If you want a reality check on the topic of biases and wish to identify your specific bias weakness, then give this chapter a close reading.

Chapter 4 then provides our answer to the challenges discussed in the previous chapters: the Decision TUNER approach to debiasing your own thinking. You will find simple principles and visual tools to strengthen your bias immune system, so to speak. In the chapter, we don't stop at the individual level but also consider debiasing on the team level and how entire organizations can build debiasing into their policies, processes, and infrastructures. If you already know a lot about biases but want to know how to fight

them, then focus on this chapter. This is your key chapter to actually doing something about biases in decision making.

The fifth and final chapter wraps up the book with a recap of its key findings and recommendations, but also open questions and future avenues. One such future development regards the combination of human and algorithmic biases and what they could mean for effective debiasing approaches.

If, at that point, you are still thirsty for more insights about biases and want to expand your knowledge of biases beyond the most important ones, then you can dig into the appendix, where we have provided a comprehensive list of dozens of biases that have been identified through research. You can also find an interactive version of almost 200 biases at our site bias.visual-literacy.org, including their clustering, references, instructional videos, and links to further information. For now, however, let's start to build a solid understanding of the key biases that are need to know for anyone working in organizations today. Let's dive into chapter 2.

CHAPTER 2

A BIAS TUTORIAL

This chapter highlights the influence of cognitive biases on managerial decision making. It shows how biases flaw decisions and why they are an intricate part of our thinking and decision making. This chapter also provides you with a structure of all decision-making biases, a typology that helps you understand “what can go wrong” within the phases of a decision-making process. Additionally, this chapter offers a deep dive into 15 specific cognitive biases that are the most common and recognized in decision practice.



It ain't what you don't
know that gets you into
trouble. It's what you know
for sure that just ain't so.

- Mark Twain



Have you ever experienced situations like these before?

- “There was a case where two fresh graduates applied for the same job at the same time. Both had the same qualifications. The gender is the only difference. In the recruiting choice made by the interviewer, the compensation offered to the male candidate was higher than the salary offered to the female candidate.” (This is a so-called “unconscious bias” or a case of stereotyping.)
- “We had to make a decision quickly this time, so we only used the facts we had at the time, which led us to make the wrong decision because we hadn’t given it enough thought.” (Availability bias)
- “We were working with another team to work on an important strategy-implementation project, and both teams had different opinions on how to proceed. In the end, we went to our traditional strategy-execution approach, although the context was now quite different.” (Problem-solving set)
- “We once had a project in which we invested a lot of time and money and thought we could finish it, so we pushed ourselves to finish it, even though we knew we couldn’t, and, as a result, we failed miserably.” (Sunk-cost neglect)

These situations were described by managers from Forbes Global 2000 companies who we asked about decision flaws in their managerial decision making. These are all typical decision-making situations

01
FUNCTIONAL FIXEDNESS

Spotlight: The Most Dangerous Biases

We struggle to innovate how we do things, as we do not consider alternative ways of using techniques, tools, artifacts, objects, or concepts due to their traditional use. They are “fixed” to the original design function. This leads to less options or solutions than otherwise could be generated by thinking more divergently and creatively.

Typical Behavior: “I used tools, resources, or data only in the traditional way and did not envision other ways of how they could be used more effectively or differently.”

Bias Category: Narrow Focus

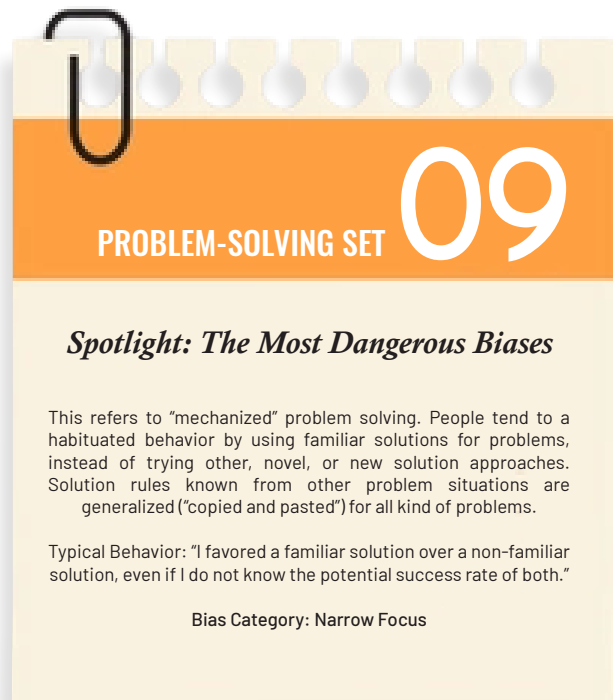
and ambiguity (VUCA) shape the context, these heuristics lead to bad decisions. The use of heuristics may thus help in many decisions in a “decision- friendly” environment, but, in a blurred and hostile environment, the danger of a negative impact of cognitive biases due to simplifications seems to rise. Biases driven by heuristics are, for example, the base-rate fallacy, order effects (serial positioning effect), functional fixedness, or imaginability.

Cognitive Biases Driven by Motivation

There are more “facilitators” of cognitive biases in decision making. The motivational background of cognitive biases can be found in our needs for consistency in individual self-perception processes (verification biases) and for approaching pleasure and avoiding pain in decisions (regulation biases). These motivational reasons lead—among others—to biases like confirmation bias, an illusion of control, in-group bias, and self- or group-serving biases.

How Cognitive Biases Influence the Boundedness of Rationality in Decisions

As we have seen above, our learned shortcuts and our motivations cause us to make irrational decisions in certain situations. Cognitive biases influence the decision makers’ perception of their environment and their choice of decision strategies. They thus further limit our own rationality. Or, to sum it up: cognitive biases



PROBLEM-SOLVING SET 09

Spotlight: The Most Dangerous Biases

This refers to “mechanized” problem solving. People tend to a habituated behavior by using familiar solutions for problems, instead of trying other, novel, or new solution approaches. Solution rules known from other problem situations are generalized (“copied and pasted”) for all kind of problems.

Typical Behavior: “I favored a familiar solution over a non-familiar solution, even if I do not know the potential success rate of both.”

Bias Category: Narrow Focus

2.2. TYPOLOGY OF COGNITIVE BIASES

What can go wrong in decision making? Research has identified more than 190 different cognitive biases that affect human decision making in various ways. And no decision maker can be expected to have all cognitive biases permanently in mind. Still, being aware of what can go wrong may be helpful in improving managerial decision making, as this awareness nudges one's mind to consider potential flaws in one's decision making and to take measures helping mitigate the influence of cognitive biases. These debiasing measures can be applied before, during, and after the decision-making process (see chapter 4 on the Decision TUNER). Knowing and understanding what can go wrong is a prerequisite to facilitating better decisions and intervening correctively.

The recognition of the symptoms and underlying patterns of cognitive biases in decision making is thus the first step toward better decisions. This involves mapping what can go wrong and recognizing when and why cognitive biases occur in the process of decision making.



CONFIRMATION BIAS 10

Spotlight: The Most Dangerous Biases

Imagining hypothetical future events leads to the perception that these events are more likely to happen. The easier one can imagine a certain event or outcome, the more probable we think it is. We then neglect other options or scenarios that are harder to imagine but have a comparable probability.

Typical Behavior: "I favored information that confirmed my existing opinions instead of looking for contradicting evidence."

Bias Category: Confirming My View

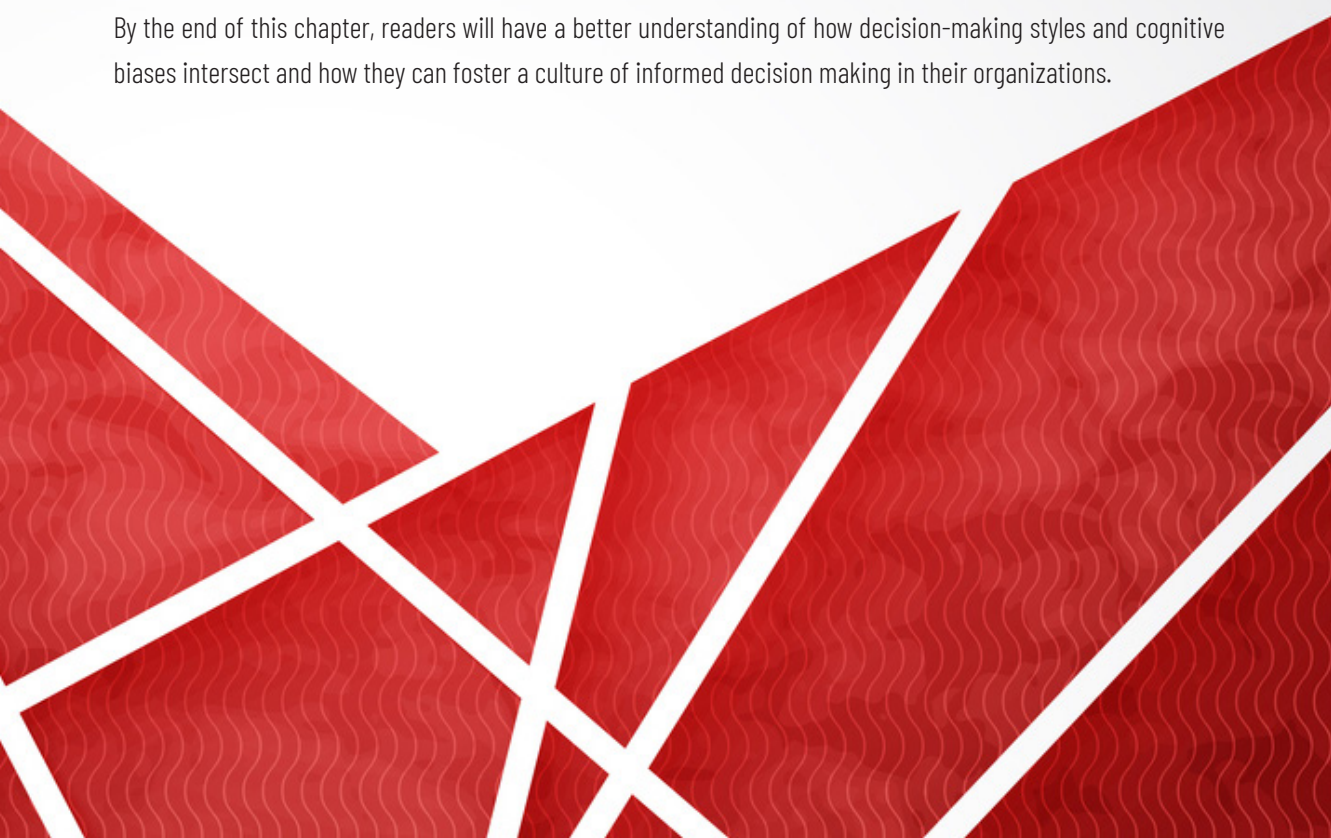
CHAPTER 3

BEWARE OF THE BIAS BLIND SPOT

How do cognitive biases affect decision making in organizations? And what can managers do to mitigate the negative impact of these biases? In this chapter, we explore the relationship between decision-making styles and cognitive biases, drawing on a study of 500 C-suite direct-report managers from Forbes Global 2000 companies.

We also examine the general decision style inventory (GDSMI), which identifies five different decision-making styles: rational, intuitive, dependent, avoidant, and spontaneous. Each style has its own strengths and weaknesses and can be influenced by various factors.

By the end of this chapter, readers will have a better understanding of how decision-making styles and cognitive biases intersect and how they can foster a culture of informed decision making in their organizations.





*Every mistake seems
incredibly stupid when
others make it.*

Georg Christoph Lichtenberg

*I think unconscious bias
is one of the hardest
things to get at.*


Ruth Bader Ginsburg



Intro: The Hidden Cost of Cognitive Biases

Managers who are subject to cognitive biases may overlook important information, make assumptions that are not accurate, or fail to consider alternative options. Cognitive biases can have significant consequences for companies, ranging from poor decision making to negative impacts on organizational culture and morale. It is therefore important for managers to understand and mitigate their own cognitive biases to avoid costly mistakes and foster a culture of informed decision making in their organizations.

This chapter is the starting point for the journey to a better understanding of your own decision-making behavior and the flaws that may be present within it. It provides valuable insight to help identify cognitive biases that we usually overlook in our decision-making processes by introducing the concept of the bias blind spot. Additionally, the chapter presents the results of a management survey that highlights which decision types are most susceptible to certain biases and helps you reflect on your own decision style.



3.1. SPOTTING BIASES IN DECISION-MAKING BEHAVIOR AT WORK

As a business manager, making good decisions is crucial to the success of your organization. However, our decisions are not always as rational as we would like to believe. In fact, cognitive biases often cloud our judgment and lead us to make poor decisions. The good news is that, by becoming aware of our biases, we can take steps to mitigate their impact.

To help you identify potential biases in your own decision making and that of your colleagues, we have compiled a list of the top 15 most common decision-making behaviors according to the current research literature and generated a list of typical behaviors for those biases. Please take a moment to go through the list below. Think about the situation at your workplace. Please mark in your mind all those behaviors that you believe are common among decision makers in your organization, those that you can observe at work:

- They assigned characteristics to business partners or collaborators based on their membership to a certain group (gender, nationality, profession, age, etc.).
- They used only the information they could recall quickly and easily for a decision.
- They favored a familiar solution over an unfamiliar one, even if they did not know the potential success rate of both.
- They perceived events as more likely to happen when they could imagine them vividly.
- In a business discussion, they falsely assumed that their colleagues had the same level of knowledge as they did.
- They favored information that confirmed their existing opinions instead of looking for contradicting evidence.
- They believed they understood a complex phenomenon better than they actually did.

- They preferred people from their own department over people from other departments just because they were from their own department.
- They were influenced by a starting offer (like the starting price of a negotiation) and could not break away from this reference point later.
- They planned too optimistically, even if they should have had enough experience from past planning failures.
- They perceived positively framed information differently than the same information if it was negatively framed (example: “40 out 100 people buy from us” vs. “60 out of 100 do not buy from us”).
- They did things just because other people did them too.
- They continued a (hopeless) project since they had already invested time and money in it.
- They used tools, resources, or data only in the traditional way and did not envision other ways for how they could be used more effectively.
- They assessed their own capabilities as better than those of others and as above average.

Now, let’s go through the list again and think about whether you have observed these behaviors in your own decision making. Please select in your mind all behaviors that you have noticed yourself doing at least once in the last six months.

Now that you have had the chance to reflect on potential biases in your own decision making and that of your colleagues, it’s important to understand the underlying cognitive biases that may be contributing to these behaviors.

Maybe you realized that each of the decision-making behaviors in the list above describes one of the biases which we introduced in the spotlights in the previous chapter. In our appendices, we have compiled the list of decision-making behaviors from the previous tasks and the biases that they may represent (Appendix C) as well as a template for testing yourself (Appendix A). Both the table and the self-test could serve as a quick

reference guide to help you better understand the various cognitive biases that can impact your decision making at work. By becoming familiar with these biases, you can better recognize them when they arise and take steps to mitigate their influence.

By comparing the choices you made in the list above, you can gain insight into your own biases and those of your colleagues. Take a short break and answer the following questions for yourself:

- How many potentially biased decision behaviors did you check in the first list? How many behaviors have you noticed yourself doing? Did you see more biases or less in other people's decisions than in your own?
- What are the biases that are prevalent in your organization? Which ones did you notice in your own behavior?

Interestingly, when we conducted a survey of top executives in a variety of industries, we found that, on average, managers saw more cognitive biases in other people's decisions than in their own. Furthermore, they tended to see different biases in other's decisions than in their own, with the more severe biases often only being seen in other people's decision making.


These findings highlight the importance of self-reflection and awareness when it comes to decision making. By acknowledging and addressing our biases, we can make better decisions and create a more effective and successful organization.

The State of Bias Awareness

To learn more about how aware managers are of biases in their decision making, we conducted a survey with 500 participants working for companies listed in the Forbes Global 2000. Participants held so-called C-suite direct-report positions, which means that they were not members of the executive board themselves but reported directly

to a member of the board. Furthermore, they were responsible for making business decisions, with accountability for their success or failure. The study was conducted across different countries, and the distribution of countries in the sample followed the distribution of countries in the 2021 edition of the Forbes Global 2000 list. See the Info Box below for more details on the study design.

Participants in the study were asked to identify biases they most commonly observe in other people's decision making. The results show that the most common bias perceived is the so-called in-group bias, the preference for one's own group—for example, preferring people from one's own department over people from other departments just because they are from one's own department. Other commonly perceived biases include the confirmation bias, e. g., favoring information that confirms existing opinions, and illusory superiority, e. g., assessing one's own capabilities as better than those of others. The full list of biases and their corresponding percentages can be found in Figure 4 below



Common Biases in the Decision of Others

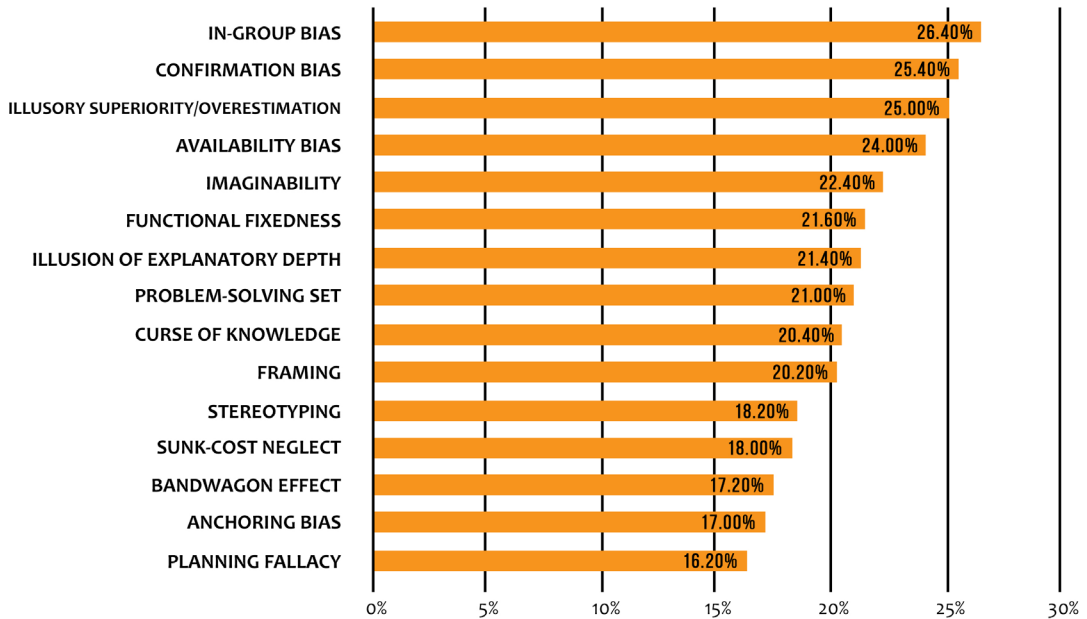


Figure 4: Share of Participants Reporting to Have Observed a Certain Bias in the Decision-Making Behavior of Others

To prevent decision-making errors, it is essential to be aware of one's own biases. Therefore, managers in the study were also asked which biases they had observed in their own behavior in the last six months.

Interestingly, the study found that managers had significantly more biases that they identified in others than in themselves. On average, managers noticed 3.1 biases in others, while they identified only 2.7 biases in their own behavior. This is an important finding, as it suggests that managers may have a blind spot when it comes to their own biases. This blind spot could lead to them overlooking their own biases and, as a result, making decisions that are not in the best interest of the organization. The results of the self-reported biases are presented in Figure 5 below.

Common Biases in Own Decision

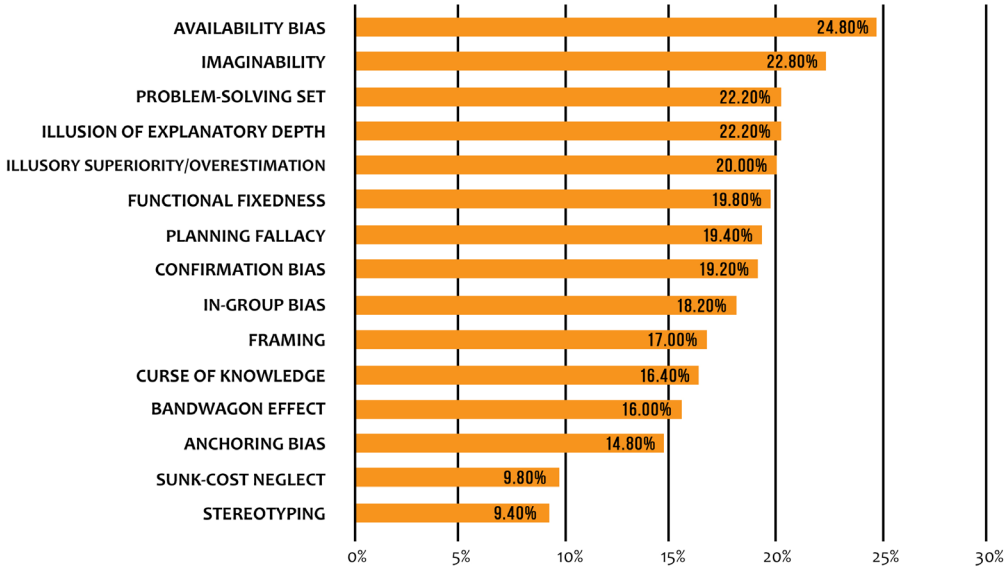


Figure 5: Share of Participants Reporting to Have Observed a Certain Bias in Their Own Decision-Making Behavior

If you have taken the time to carefully review the list of biases presented in the study, you have likely selected more biases than the managers did. However, the question remains whether you have identified more or fewer biases in yourself compared to others. If you have identified more biases in others, you are in very good company. This is a common phenomenon known as the “bias blind spot” wherein individuals tend to see biases more readily in others than in themselves. On the other hand, if you have identified more biases in yourself compared to others, then congratulations are in order. This suggests that you are more self-aware and better able to critically evaluate your own behavior than most managers. This is an important skill for managers to have, as it can help them make more informed decisions and avoid potential biases that may cloud their judgment. Overall, the results of the study suggest that, while managers are aware of biases that can impact their decision making, they may have a blind spot when it comes to their own biases. This highlights the importance of self-awareness and the need for managers to be mindful of their biases in order to make more informed decisions. By doing so, managers can help minimize the impact of biases on their decision making and ultimately improve the performance of their organization.

3.2. THE BIAS BLIND SPOT

Our research confirms former findings showing that individuals tend to perceive others as more influenced by biases than themselves, a phenomenon known as the bias blind spot. This blindness stems from two factors: the introspect illusion and naïve realism. The introspect illusion refers to the belief that we have better insight into our thoughts and motivations than we actually do, while naïve realism is the belief that our own perception of reality is accurate and that others' perspectives are distorted. This bias blind spot can have severe consequences for managers' decision making, as it makes it harder for them to identify and address their biases.

How big is the bias blind spot, and which biases are more likely to be overseen?

The comparison between the number of cognitive biases attributed to others (AVG 3.1) and to oneself (AVG 2.7) showed a significant difference and unveiled a general bias blind spot. This difference and therefore the general bias blind spot becomes even more pronounced if we take into account that the participants in the original study could select only up to five biases for others in the first question and up to 15 biases they observed in themselves.

The analysis per bias revealed that the top three biases with a strong blind spot for managers are stereotyping, in-group bias, and sunk-cost neglect (see Figure 6). The three biases imaginability, availability bias, and planning fallacy showed a reversed blind spot. In other words, these three are more observed within oneself than in others (which, in the case of the planning fallacy, aligns with the extant research, as people claim to be more biased by this fallacy than their peers).

CHAPTER 4

THE TUNER APPROACH TO DEBIASING DECISIONS

This chapter offers a systematic approach to debiasing one's thinking—individually, in groups, or as an organization—and thus to consistently make better decisions. It outlines the TUNER approach to bias-free decisions and clarifies the role of intuition in debiasing. This chapter also gives you a choice among 11 tools that can assist your debiasing efforts.



*If you want to teach people
a new way of thinking, don't
bother trying to teach them.
Instead, give them a tool,
the use of which will lead to
new ways of thinking.*

Buckminster Fuller



Knowing about biases—as you now do due to the previous chapters—already brings you halfway to better decisions (especially if you’re aware of your proclivity for certain biases). Nonetheless, the other half of the journey to bias-free decisions may be the harder one, namely to systematically and consistently free your decisions and actions of biases. In this chapter, we describe what you can do to get rid of biases in your decision making. We do so through our TUNER approach, a balanced approach that not only looks at a decision itself but also what happens before and after it is made.

This approach consists not only of principles and high-level advice but also of practical, ready-to-use decision tools. In addition, you’ll find that our take on debiasing is a multi-level approach, as the TUNER elements can be applied individually, in groups, or as an entire organization. We first describe the TUNER approach in overview (including the role of intuition in decision making) and then present 11 decision-making tools based on this methodology.



4.1. THE DECISION TUNER APPROACH IN OVERVIEW

Take the fear factor out of important decisions with a simple five-step action plan to debias your decision-making process that we call the Decision TUNER approach. Our pragmatic debiasing approach consolidates existing research on reducing thinking errors in decision making. It is unique, as it begins long before you make a decision and does not end once you have made it. Use it, for example, to choose the right supplier, to make the right career decision, to take the best strategic next step for your organization, or to steer projects to success. The Decision TUNER assembles five effective and complementary mechanisms to significantly reduce biases in your decision making (see Figure 9).



Figure 9: The Decision TUNER's Key Actions in Overview



4. Emotions can be the biggest enemy of a good decision. Hence, keep your feelings in check when making an important decision and try to reflect on your emotional state before making a far-reaching one. Keep cool and visualize your emotions (on a scale from 1 to 10) as a first step and reflect on how they may impact your decision-making process. Be aware of the fact that emotions (i.e., anger, fear, sadness, frustration, pride, jealousy) can affect your decisions, especially your propensity to take or avoid risks.

5. Revise, correct, or fine-tune your decisions whenever you see that they have not been optimized initially. You may not always debias your decision in the heat of the moment, but there are many ways to decide that can lead to more options (to adapt the decision at a later point). Keep that in mind by sequencing your decision process instead of deciding everything at once (so that you can still change course). This is known as the ‘cybernetic imperative’ by Heinz von Foerster: Always try to decide in a way that creates more options for you, rather than eliminating most of them.

As mentioned earlier, the five elements of the TUNER approach described above can be applied on an individual, team, and organizational level. Depending on your debiasing level, the TUNER steps may be slightly different, as illustrated by the examples given in Table 4.

Element	Personal Level	Team Level	Organizational Level
Track	Have a personal key-decisions diary, journal, or logbook.	Periodically conduct a decision-review workshop to analyze the success of past team decisions and documenting this in an annotated timeline.	Establish a tracking database, scorecard, and timeline of key organizational decisions and their outcomes and review these with regard to necessary policy changes.
Unlearn	Visualize your current, suboptimal approach to decision making and redesign it for a better decision process	Consciously establish new team routines, such as consent-based decision making (instead of voting) or brainwriting (instead of brainstorming)	Install behavioral nudges (such as memo templates that ask for alternatives) and adapt organizational processes and manuals.

New Views	Solicit the opinion of people radically different from you before deciding.	Mix up the team composition frequently (bringing in new team members).	Consult external experts, for example through mandatory Delphi rounds or benchmarking studies, before new initiatives are started.
Emotion Check	Verbalize and (if possible) neutralize your emotional state before deciding.	Use brainwriting instead of brainstorming and using visualization to de-personalize debates in teams.	Use IT-based nudges to make all employees aware of the dangerous roles of emotions in decision making and have emotions explicitly discussed in decision-making trainings and tutorials.
Revisable Decisions	Always double check if the way you're deciding leaves you with opportunities for later revisions or not.	Make revisability an official team criterion whenever making decisions and frequently discuss revision needs for made team decisions.	Establish real options (investing in alternatives) and genuine backup plans.

Table 4: Taking the TUNER Approach to Different Application Levels

While some of the TUNER elements are similar across the three application levels, such as the tracking of decisions on a timeline, others differ significantly. How unlearning is organized and fostered is an example of the latter. While unlearning on the individual level mostly requires only reflection and the prototyping of new personal decision routines, this requires new rules and team processes on the group level. On the organizational level, finally, unlearning incentives needs to be institutionalized (for example in performance-review dialogues), and changes to decision processes need to be documented, trained, and reviewed frequently.

An element that affects unlearning on an individual level is one’s intuition. In the following box, we examine the three kinds of intuition that you should be aware of when debiasing your decisions on an individual level.

DECISION TUNER

Track

Unlearn

New
ViewsEmotion
Check

Revise

The Decision Tuner - A quick Debiasing Checklist

Briefly go through these 10 points whenever you need to make an important decision.

T RACK

1. Reflect on your previous decisions and be aware of your preferences and likely biases.
2. Document the current decision and make a calendar entry to review it two months later.

U NLEARN

3. Write down three assumptions on which your decision is based and reality-check them.
4. Apply one (for you) unusual decision tool or procedure to this decision, such as a decision tree, a worst-case scenario, or pros-cons list.

N EW VIEWS

5. Actively seek out the opinion of somebody with a radically different perspective.
6. Think about your decision's implications 10 days and 10 months down the line.

E MOTION CHECK

7. Try to establish emotional distance to the decision (cool down first).
8. Draw three of your emotions regarding the decision on scales from 1 (weak) to 10 (strong).

R EVISE YOUR DECISION

9. Take the decision in a way that allows you to adapt it later.
10. Define criteria under which circumstances your current decision should be revised.

APPENDIX A.

SELF-TEST FOR BIAS AND BIAS BLIND SPOT SUSCEPTIBILITY

Which of the following decision-making behaviors have you observed ...

Decision-making behavior	... among other decision makers	... in your own decision making
I (they) assigned characteristics to business partners or collaborators based on their membership to a certain group (gender, nationality, profession, age, etc.).	<input type="checkbox"/>	<input type="checkbox"/>
I (they) used only the information I (they) could recall quickly and easily for a decision.	<input type="checkbox"/>	<input type="checkbox"/>
I (they) favored a familiar solution over an unfamiliar solution, even if I (they) did not know the potential success rate of both.	<input type="checkbox"/>	<input type="checkbox"/>
I (they) perceived events as more likely to happen when I (they) could imagine them vividly.	<input type="checkbox"/>	<input type="checkbox"/>
In a business discussion, I (they) falsely assumed that my (their) colleagues had the same level of knowledge as I (they) did.	<input type="checkbox"/>	<input type="checkbox"/>
I (they) favored information that confirmed my (their) existing opinions instead of looking for contradicting evidence.	<input type="checkbox"/>	<input type="checkbox"/>
I (they) believed I (they) understood a complex phenomenon better than I (they) actually did.	<input type="checkbox"/>	<input type="checkbox"/>
I (they) preferred people from my (their) own department over people from other departments just because they were from my (their) own department.	<input type="checkbox"/>	<input type="checkbox"/>
I (they) was (were) influenced by a starting offer (like the starting price of a negotiation) and could not break away from this reference point later.	<input type="checkbox"/>	<input type="checkbox"/>
I (they) planned too optimistically, even if I (they) should have had enough experience from past planning failures.	<input type="checkbox"/>	<input type="checkbox"/>
I (they) perceived positively framed information differently than the same information if it was negatively framed (example: "40 out of 100 people buy from us" vs. "60 out of 100 do not buy from us").	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX C.

COGNITIVE BIASES AND TYPICAL DECISION-MAKING BEHAVIOR

Cognitive Bias	Decision-Making Behavior
Stereotyping	I (they) assigned characteristics to business partners or collaborators based on their membership to a certain group (gender, nationality, profession, age, etc.).
Availability	I (they) used only the information I (they) could recall quickly and easily for a decision.
Problem-solving set	I (they) favored a familiar solution over an unfamiliar solution, even if I (they) did not know the potential success rate of both.
Imaginability	I (they) perceived events as more likely to happen when I (they) could imagine them vividly.
Curse of knowledge	In a business discussion, I (they) falsely assumed that my (their) colleagues had the same level of knowledge as I (they) did.
Confirmation bias	I (they) favored information that confirmed my (their) existing opinions instead of looking for contradicting evidence.
Illusion of explanatory depth	I (they) believed I (they) understood a complex phenomenon better than I (they) actually did.
In-group bias	I (they) preferred people from my (their) own department over people from other departments just because they were from my (their) own department.
Anchoring bias	I (they) was (were) influenced by a starting offer (like the starting price of a negotiation) and could not break away from this reference point later.
Planning fallacy	I (they) planned too optimistically, even if I (they) should have had enough experience from past planning failures.
Framing	I (they) perceived positively framed information differently than the same information if it was negatively framed (example: "40 out 100 people buy from us" vs. "60 out of 100 do not buy from us").

APPENDIX D.

OVERVIEW OF COGNITIVE BIASES

Cognitive Bias	Description	Typical Quote
Action bias	The tendency to favor action over inaction, often to our benefit.	I must do something.
Actor-observer asymmetry	The tendency of actors to explain and verify their behavior due to the situation.	Under these circumstances, I had to take this decision.
Ambiguity effect	The tendency to avoid options for which the probability of a favorable outcome is unknown.	As we were not sure about the outcome of one option we decided for an option, where we felt sure about the outcome.
Anchoring bias	Final decisions affected by the original starting point.	A discount of 10% from the price of \$100 is a better purchase than just paying \$90 without a discount.
Anthropocentric thinking	The tendency to use human analogies as a basis for reasoning about other, less familiar biological phenomena.	This animal smiles like a baby.
Anthropomorphism	The tendency to characterize animals, objects, and abstract concepts as possessing human-like traits, emotions, and intentions.	I am sure this dog is thankful for my petting.
Appeal to novelty (argumentum ad novitatem)	The tendency to prefer newer options over older ones.	We preferred the idea which we developed in our latest workshop over older ideas.
Attentional bias	Weighted extraction of information.	I only read what seemed important to me.
Attraction effect (or decoy effect)	The choice can be influenced by irrelevance-dominated alternatives.	Compared to the luxury car (which I cannot afford), the choice I made seems reasonable.
Authority bias	The predisposition toward opinions and actions of authority persons.	I followed the advice of my supervisor.
Automation bias	Decisions rely on automated aids without reflection.	The MIS showed me that we have a cash issue based on its algorithm, so I believed this assessment.
Availability bias	Higher estimation of probability if the events are easier to remember.	It always rains on bank holidays.

Debias by Design is a systematic guide to the most frequent and impactful decision-making mistakes in management. It outlines why such errors come about and how to prevent or correct them. *Debias by Design* makes the extensive evidence on cognitive biases available to professionals in an accessible, entertaining, and visual format so that detrimental mental shortcuts can be more easily spotted and avoided in everyday decision-making. Besides a concise and visual guide to the most relevant biases, the book also presents simple debiasing tools, methods, and tricks to improve decision making systematically.

Written by an experienced team of practitioners and academics, *Debias by Design* offers the following features:

- A state-of-the-art survey on the most relevant and impactful cognitive biases from the point of view of experienced managers.
- A highly visual and instructive guide to the most important cognitive biases.
- The Decision TUNER approach to boost the quality of your decisions.
- A toolbox on how to systematically avoid bias as an individual, team, and organization.
- A tutorial on how to spot your own bias blind spots.
- An outlook on how to deal with biases in hybrid or AI- and analytics-assisted decision making.
- A self-test to calibrate your own decision making and know your own bias weak spots.

Debias by Design - so that you can design better decisions.

www.debiasbydesign.com

