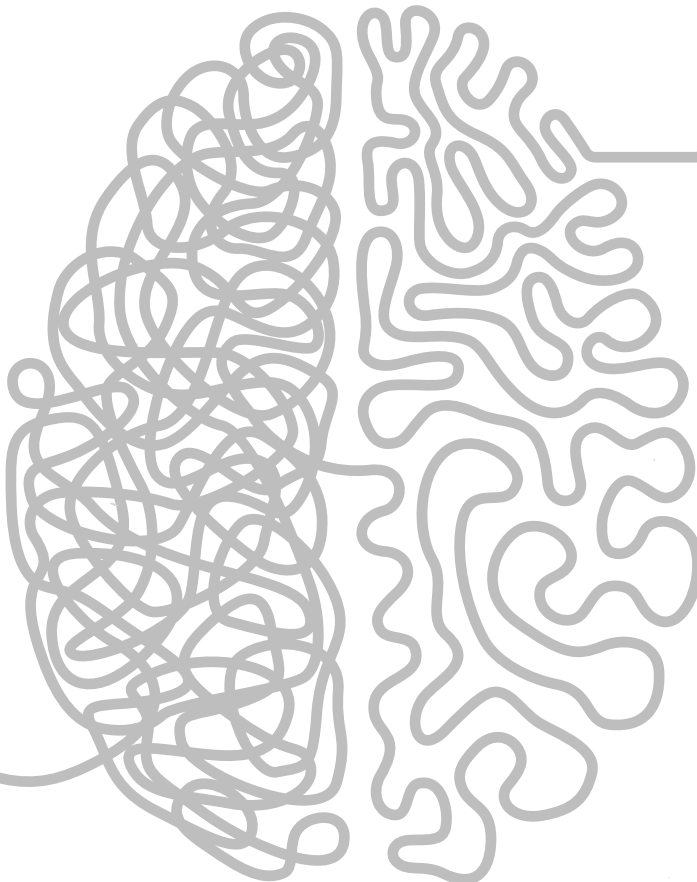


DEBIAS

by Design

Martin J. Eppler
Christian Muntwiler
Fabian Buder
Matthias Unfried

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



DEBIAS
by Design



University of St.Gallen

Institute for Media
and Communications Management



NIM Nuremberg Institute
for Market Decisions

Martin J. **Eppler**
Christian **Muntwiler**
Fabian **Buder**
Matthias **Unfried**

DEBIAS

by Design

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



Copyright © 2024 by MCM-HSG and Nürnberg Institut für
Marktentscheidungen e. V. (NIM)

Publisher: Institute for Media and Communications Management,
University of St. Gallen

Design by: belau.biz, Malte Belau

ISBN Nr. 978-3-9525612-2-5 (print version)

ISBN Nr. 978-3-9525612-3-2 (ebook)

This work is subject to copyright. All rights are reserved by MCM and NIM in whole or part, including translation, reprinting, reuse of illustrations, recitation, broadcasting, or transmission in any other physical way, especially information storage and retrieval, electronic adaptation, computer software, or by similar methodology. Exempted from this legal reservation are brief excerpts in connection with reviews or scholarly analysis. Duplication of this publication or parts thereof is permitted only under the provisions of the copyright law of Germany, in its current version, and permission for use must be obtained from the MCM or NIM. While the advice and information in this book are believed to be true and accurate, the authors cannot accept legal responsibility for any errors or omissions that may have been made.

www.debiasbydesign.com

Table of Contents

1	INTRODUCTION: DEBIASING YOUR DECISION BY DESIGN	7
2	A BIAS TUTORIAL	13
	2.1 Background Factors That Drive Cognitive Biases in Decision Making	16
	2.2 Typology of Cognitive Biases	21
3	BEWARE OF THE BIAS BLIND SPOT	33
	3.1 Spotting Biases in Decision-Making Behavior at Work	34
	3.2 The Bias Blind Spot	40
	3.3 Decision Styles and Cognitive Biases	42
	3.4 Bias Susceptibility and Bias Blind Spot by Decision Styles	43
	3.5 Summary	47
4	THE TUNER APPROACH TO DEBIASING DECISIONS	53
	4.1 The Decision TUNER Approach	54
	4.2 Decision TUNER Debiasing Tools	59
5	CONCLUSION AND OUTLOOK: BEWARE OF BIASES IN HYBRID DECISION MAKING	73
	References	80
	Appendix A: Self-test for bias and bias blind spot susceptibility	84
	Appendix B: Self-test for decision styles	86
	Appendix C: Cognitive biases and typical decision-making behavior	90
	Appendix D: Overview of cognitive biases	94
	The Authors	108
	The Organizations	110
	Table of Figures	111

*Not to laugh, not to
lament, not to detest,
but to understand.*

BARUCH DE SPINOZA



1

INTRODUCTION:
DEBIASING
YOUR DECISION
BY DESIGN



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 or not to continue funding a problematic project.
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 who are 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 are 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 valuable 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 on 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 means you forgo 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 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 relates to 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.

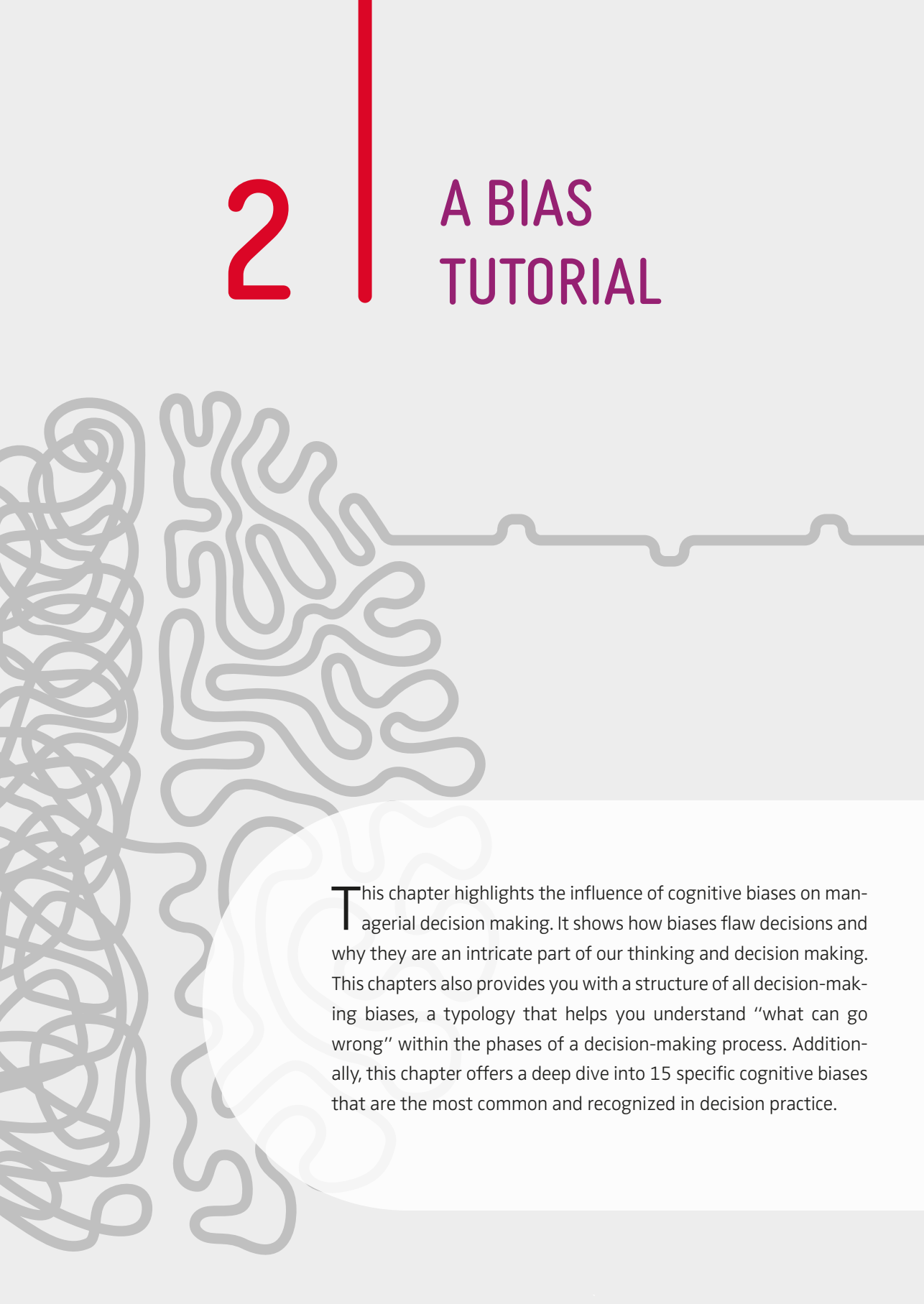
*It ain't what you don't know
that gets you into trouble.
It's what you know for sure
that just ain't so.*

MARK TWAIN



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 chapters 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.

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. Their gender was 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 on an important strategy-implementation project, and both teams had different opinions on how to proceed. In the end, we went with 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)

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 fewer 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

02 IN-GROUP FAVORITISM (IN-GROUP BIAS)

SPOTLIGHT: THE MOST DANGEROUS BIASES

People tend to favor people from the same cultural group (team, nationality, social background, education) that share a common set of beliefs, behavioral norms, and behavioral expectations. This has consequences in terms of allocation of resources, group diversity, group dynamics, and cooperation.

Typical Behavior: “I preferred people from my own department over people from other departments, just because they were from my own department.”

BIAS CATEGORY: SELF-SERVING EVALUATION