"Check the facts." "Examine the evidence." "Correlation is not causation."

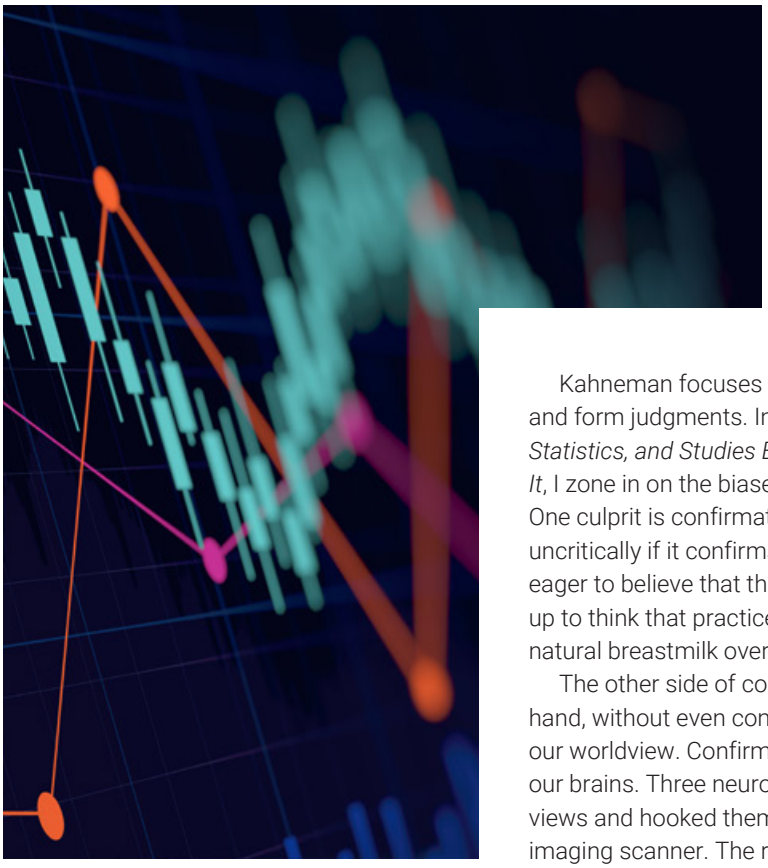
We've heard these phrases enough times that they should be in our DNA. If true, misinformation would never get out of the starting block, argues **Alex Edmans**

Nearly half of the British public believed the claim, plastered on buses, that European Union membership cost the UK £350 million per week. This may have been pivotal in the UK voting to leave the EU, yet the actual figure was £120 million. People believe Malcolm Gladwell's '10,000 hours rule' that you need 10,000 hours of practice to master any skill. Yet the evidence it's based on was limited to violinists, it didn't measure their skill, and didn't even mention 10,000 hours. Exhausted mothers feel too guilty to bottle-feed their babies because there's a strong correlation between breastfeeding and child IQ, even though it's parental factors that drive both.

What's striking in all the above cases is that the solutions are simple. We all know that the side of a bus is not a reliable source of information. Gladwell was up-front about the study that he based his 10,000 hours rule on, and a quick Ctrl-F shows that the paper doesn't mention anything even close. If I share a study on LinkedIn whose findings people don't like, there's no shortage of comments on how correlation is not causation – exactly the kind of discerning engagement I'm hoping to prompt. But do I see the same critical thinking when I post a paper that finds their favour? Unfortunately not – people lap it up uncritically.

Why is it that we leave our learnings at the door and rush to accept a statement at face value? Because of our biases. In his groundbreaking book, *Thinking, Fast and Slow*, Nobel Laureate Daniel Kahneman refers to our rational, slow thought process as System 2, and our impulsive, fast thought process – driven by our biases – as System 1. In the cold light of day, we know that we shouldn't take claims at face value – but when our System 1 is in overdrive, the red mist of anger clouds our vision.

DISINFORMATION



Kahneman focuses on biases that distort how we make decisions and form judgments. In a new book, *May Contain Lies: How Stories, Statistics, and Studies Exploit Our Biases – and What We Can Do About It*, I zone in on the biases that affect how we interpret information. One culprit is confirmation bias – the temptation to accept evidence uncritically if it confirms what we'd like to be true. Some Britons were eager to believe that the EU was bleeding the UK dry; we're brought up to think that practice makes perfect; and many of us would trust natural breastmilk over the artificial formula of a giant corporation.

The other side of confirmation bias is that we reject a claim out of hand, without even considering the evidence behind it, if it clashes with our worldview. Confirmation bias is hard to shake as it's wired into our brains. Three neuroscientists took students with liberal political views and hooked them up to a functional magnetic resonance imaging scanner. The researchers read out a political statement the participants previously said they agreed with (like 'the death penalty should be abolished') or a non-political statement (like 'the primary purpose of sleep is to rest the body and mind'). They then gave contradictory evidence and measured the students' brain activity. There was no effect when non-political claims were challenged, but countering political positions triggered their amygdala. That's the same part of the brain that's activated when a tiger attacks you, inducing a 'fight-or-flight' response. People respond to opposing views as if they're being chased by a wild animal. The amygdala drives our System 1 and drowns out the prefrontal cortex, which operates our System 2.

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Confirmation looms large for issues where we have a pre-existing opinion. Emotions run high for the death penalty, EU membership, and breastfeeding. If there's nothing to confirm, there's no confirmation bias, so we hope these issues can be approached with a clear head. Unfortunately, another bias kicks in: black-and-white thinking. This bias means that we view the world in binary terms. We see something as either always good or always bad, with no shades of grey.

The highest-selling weight-loss book in history, *Dr Atkins' New Diet Revolution*, exploited this bias. Most people think 'protein' is good. You learn in primary school that it builds muscle, repairs cells and strengthens bones. 'Fat' just sounds bad – surely it's called that because it makes you fat? But the Atkins diet concerns carbs, which aren't so clear cut. Before Atkins, people may not have had strong views on whether they were good or bad. But as long as they think it has to be one or the other, with no middle ground, they'll latch onto a one-way recommendation.

That's what the Atkins diet did. It had one rule, and only one rule - avoid all carbs. Not just refined sugar, not just simple carbs, but all carbs. You can decide whether to eat something by looking at the 'carbohydrate' line on the nutrition label, without worrying whether the carbs are complex or simple, natural or processed. This simple rule played into black-and-white thinking and made it easy to follow. If the Atkins diet had recommended eating as many carbs as possible, it might still have spread like wildfire. To pen a bestseller, Atkins didn't need to be right. He just needed to be extreme.

We see black-and-white statements all the time, evidence or no evidence. People claim that "culture eats strategy for breakfast", citing Peter Drucker. But Drucker never made this claim, and even if he did, it's meaningless unless he conducted a study taking one set of companies with a strong culture and a weak strategy and another set with a strong strategy and a weak culture and comparing the performance of the two. Even worthy causes can go astray due to black-and-white thinking that ignores any trade-offs. Governments, investors, and companies are racing to net zero with some perfunctory mentions of a 'just transition', but 600 million people in Africa have no access to electricity and nothing to transition from.

So, what do we do about it? The first step is to recognise our own biases. If a statement sparks our emotions and we're raring to share or trash it, or if it's extreme and gives a one-size-fits-all prescription, we need to proceed with caution.

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The second step is to ask questions, particularly if it's a claim we're eager to accept. One is to 'consider the opposite'. If a study had reached the opposite conclusion, what holes would you poke in it? Then, ask yourself whether these concerns still apply even though it gives you the results you want.

Take the plethora of studies claiming that sustainability improves company performance. I'd love that to be true, given that most of my work is on the business case for sustainability. But what if a paper had found sustainability worsened performance? A sustainability supporter like me would throw up a whole host of objections. First, how did the researchers actually measure sustainability? Was it a company's sustainability claims or people's subjective opinions on its sustainability rather than its actual delivery? Secondly, how large a sample did they analyse? If it was a handful of firms over just one year, the underperformance could be due to randomness; there's not enough data to draw strong conclusions. Thirdly, is it causation or just correlation? Perhaps high sustainability doesn't cause low performance, but a third factor drives both. Tech firms typically score high on sustainability, but there are particular periods in which tech underperforms the market. Now that you've opened your eyes to potential problems, ask yourselves if they plague the study you're eager to trumpet. Many sustainability articles use dubious measures of sustainability, consider short time periods, and ignore alternative explanations.

A second question is to 'consider the authors'. Think about who wrote the study and what their incentives were to make the claim that they did. Many reports are produced by organisations whose goal is advocacy rather than scientific inquiry. No consultancy will release a paper concluding that sustainability doesn't improve performance, because this won't be good for their brand. Any report on CEO pay by the High Pay Centre will conclude that CEOs are excessively paid. Ask "Would the authors have published the paper if it had found the opposite result?" – if not, they may have cherry-picked their data or methodology.

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In addition to bias, another key attribute is the authors' expertise in conducting scientific research. Leading CEOs and investors have substantial experience, and there's nobody more qualified to write an account of the companies they've run or the investments they've made. However, some move beyond telling war stories to proclaim a universal set of rules for success – but without scientific research we don't know whether these principles work in general. Sometimes people will liberally cite 'research by the University of Sunnybeach' because it supports their position when they'd never hire anyone from the University of Sunnybeach. A simple question is, "If the same study was written by the same authors with the same credentials but found the opposite results, would you still believe it?"

Misinformation is arguably a greater problem now than it ever has been. Anyone can make a claim, start a conspiracy theory, or post a statistic – perhaps assisted by generative AI – and if people want it to be true it will go viral. But we have the tools within us to combat this. We know how to show discernment, ask questions, and conduct due diligence if we don't like a finding. The trick is to tame our biases and exercise the same scrutiny when we see something we're willing to accept.

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About the Author

Alex Edmans is Professor of Finance at London Business School and non-executive director/advisor to several companies.

Further information:

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