How to Debias Your Organisation

How to make your organisation more **innovative, open minded** and **critical in its thinking and judgement**

The Behavioural Architects

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Behavioural science has revealed how numerous cognitive biases are manifest in organisational thinking and operations – **biases which can mean employees, not least leaders, directors and management teams, often make judgements and decisions in potentially sub-optimal ways.** Yet, whilst the world has woken up to how behavioural science can be used to nudge and optimise consumer behaviour, organisational processes and systems have remained largely untouched.

Nonetheless, in the last few years there has been a growing focus on decision-making processes within pioneering companies and organisations who are drawing on the latest academic research and in-house data to design new frameworks and systems to both understand and optimise internal decision-making.

We've broken this publication down into three sections:

- **Section 01: Cognitive biases at work in organisations** – This section explores some of the cognitive biases commonly found in organisations, looking at how they can skew and hinder efficient decision-making.
- **Section 02: How to dial down these organisational biases** – This section looks at how we might strategically confront and 'dial down' these biases.
- **Section 03: Applied debiasing case studies** – This section introduces three case studies that bring alive how these debiasing strategies and techniques can be – and have been – applied in different contexts.

01

Cognitive biases at work in organisations

How cognitive biases commonly found in organisations can hinder good decision-making

We are all affected by a host of different cognitive biases and, contrary to what we might assume, even the brightest minds are not immune to them. Daniel Kahneman – Nobel prize winner, psychologist, and one of the fathers of the behavioural sciences – is humble about his own (ir)rationality. After over 40 years of studying the subject, he says that even he is not resistant to bias: "My intuitive thinking is just as prone to overconfidence, extreme predictions and the planning fallacy as it was before I made a study of these issues." He has also noted that the thinking of many of his academic peers is affected by the very same biases.

Whilst the biased decision-making in the trivia of our everyday lives may not have disastrous consequences, biased decision-making in organisations could make the difference between success or failure. For example, biases often inhibit creativity and can hinder the innovation, design and launch processes in organisations. Biases can also limit how well organisations cope in a crisis, influencing their strategic decision-making, which can be extremely costly. In military or healthcare institutions, biases may even make the difference between lives saved or lost. What's more, research has found that biases can be magnified amongst teams; the effects often compound one another rather than cancel each other out.

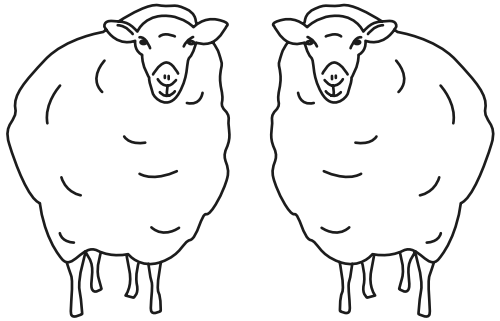
So, what sort of biases and concepts are often present in the organisations we work in and in the thinking of those who lead them? And how do those biases operate? There are a great many of course, but below we list nine of the most common ones, which can have the most detrimental consequences.

01) Groupthink and 'Happy talk'

We are highly social beings, prioritising conformity over disagreements, even if it is to the detriment of wider outcomes such as business success, creativity, innovation and honesty.

We tend to like those who are the same as us, have the same views and think in the same way. So, we might well fear that putting forward contradictory views could threaten how accepted we'll be by our peers. The more anxious and less confident among us may want to avoid looking foolish by saying what might be ill-founded. Business decisions are often poor due to the effects of groupthink: there is no evidence that groups eliminate the individual cognitive biases we all suffer from to some degree. To the contrary, they may even amplify them.

A related concept is when group members say that all is going well and likely to go even better, defined as **'Happy talk'**, by Cass Sunstein. These members silence themselves, not reporting what they know to be potentially negative issues despite it being valuable information. This is because they want to please their peers or don't want to cause anxiety or disrupt the status quo with contrary suggestions. Sunstein finds that **'Happy talk' is a pervasive source of group failures because 'no boats are rocked' and it breeds a culture of overconfidence and pretence,** masking real problems.



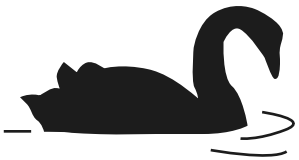
02) Normalcy Bias

When we underestimate the probability or extent of change or disruption, and struggle to envision how current life might change in the future.

Normalcy bias is a common reaction to information relating to risk and is often a response to highly improbable – almost inconceivable – events, termed **'Black Swans'** by Nassim Nicholas Taleb. An example of normalcy bias is the belief 'it can't happen to us' or that 'life will remain unchanged, even after disaster'.

We find it hard to imagine a different future from the one we live in now. This struggle is common among companies. Bill Gates once commented "*We always overestimate the change that will occur in the next two years and underestimate the change that will occur in the next ten.*" In fact, it's virtually impossible to accurately predict what will have happened in ten or more years, although rationally, we should recognise that there will almost certainly be huge changes.

Within firms, the bias is often evident in narrow business plans which assume a persisting status quo, meaning that they fail to take steps and measures to prepare for any change, unexpected event or disaster. They may have no contingency or flexibility in strategies or any prepared plans of action to avoid or minimise disaster.



03) Loss Aversion and Status Quo Bias

We tend to fear change and put greater weight on what we might lose rather than what we might gain.

Organisations and teams are by no means immune to loss aversion and status quo bias. This can often result in highly risk-averse behaviours where firms stick rigidly with the status quo rather than adapting to industry environment changes. Ironically, firms often end up in a highly risky position because they have not adjusted to new factors, which makes them extremely vulnerable.

Loss aversion and status quo bias can also result in sub-optimal business performance. A McKinsey survey found that budgets stayed the same year on year across a 20-year period, from 1990 to 2010. A third of companies reallocate just 1% of their budgets each year and the average across all companies is just 8%.[1] Shifting resources dynamically and being more responsive to changing circumstances typically results in much stronger performance and higher returns for shareholders.[2]

For example, one of the big shifts companies have been facing in recent years is digital transformation. It's a huge undertaking for companies large and small, but as Topman's global digital director, Gareth Rees-John, says,

> *"the biggest barrier is a legacy mindset."*[3]

04) Availability Bias

When what is most vivid or easy to bring to mind feels most likely to happen.

We are typically bad at estimating probabilities, tending to make decisions based on memorable, anecdotal evidence that we've seen with our own eyes, or which we've heard about through the media or from our peers, rather than on statistics and historical facts.

Cass Sunstein notes:

> *"In business and in government, people often respond to yesterday's famous failure (or celebrated success). If a particular strategy or approach turned out disastrously, it will be very much in mind. [...] If a company put a lot of money into a recent flop, the firm is likely to try to avoid a new initiative that looks even a little bit like the flop, even if the new initiative has a lot of promise."*[4]

For example, when we worked with a client to identify common biases in making merger and acquisition decisions, we identified that the team were often prey to availability bias. When the success or failure of a recent merger and acquisition deal, either by their own team or more widely in their industry, was fresh in their minds this could often influence how aggressively or cautiously they pursued a new potential deal.

A related concept is **WYSIATI** or 'What You See Is All There Is' where we tend to make decisions based only on the information that is accessible to us, failing to envisage the information that we don't have.

05) Confirmation Bias

When we seek or interpret evidence in ways that support our pre-existing beliefs or hypotheses.

Confirmation bias is extremely common in all sorts of decision-making and is the cause of many faulty beliefs and behaviours.

There are two main ways in which confirmation bias can affect our thinking:

- **Biased selection of evidence:** We notice and select evidence that supports our hypotheses. Typically, evidence that supports our belief is more salient, better remembered and given more weight than contradicting evidence.

- **Biased interpretation of evidence:** Even when evidence is selected impartially, we are prone to interpreting evidence to favour our own position. People with opposing views can even draw opposite conclusions using the same evidence. In the words of Warren Buffet: *"What the human being is best at doing is interpreting all new information so that their prior conclusions remain intact."*

The most glaring example of confirmation bias in recent years has been the false belief by the US and UK governments and intelligence communities that Saddam Hussein possessed Weapons of Mass Destruction.

Rather than keeping an open mind whilst reviewing the information collected by intelligence teams, leaders looked for evidence to support their beliefs. The cost of this flawed decision led us to war and has now been measured in lives lost, continuing political instability in Iraq and billions of dollars of military offensives.

Marketers are far from immune from confirmation bias too, as Mike Margolin recently noted in The Drum.

> *"If you're a career digital marketer, you've probably been waiting for TV to die for years already and still can't understand why marketers keep spending huge portions of their budgets on TV programs despite dwindling ratings. And if you're a TV ad buyer, perhaps every news story about bot fraud, ad-viewability issues or unimpressive ad-tech IPO is just further proof to you that digital ads will never grow up…Creative agency leaders are biased. Media agency leaders are biased. Search marketing specialists are biased, as are DMP analysts and motion-graphics specialists. Even user-experience architects are biased."*[5]

06) Anchoring

Our tendency to rely too heavily, or "anchor," on one trait or piece of information in the immediate context when making decisions.

We can be influenced by anchoring effects in all sorts of contexts, from the price we negotiate on a deal, to the safety thresholds we set for products and services, to the fines or rewards we impose, or who we hire and promote.

Perhaps it comes as no surprise that this effect is evident in firms. But it is also surprisingly evident in other types of organisations too. Despite their reputation (and indeed, requirement) for impartiality, judges are also hugely influenced by biases such as anchoring. For example, judges presented with a hypothetical personal injury lawsuit, where a truck with faulty brakes belonging to a package delivery company had hit and badly injured an electrician after it had failed to stop at a red light, awarded significantly different amounts depending on whether they were asked

> "*How much would you award the plaintiff in compensatory damages?*" or where the preceding question was followed by "*the defendant has moved for dismissal of the case, arguing that it does not meet the jurisdictional minimum of $75,000*".

The 66 judges given no monetary figure indicated that they would award the plaintiff an average of $1.25 million, whilst the 50 judges presented with a figure awarded an average of $882,000 – a statistically significant difference.[6]

An anecdote from a well-known FMCG company also illustrates how anchoring too narrowly can skew our judgement, in this case limiting our horizon:

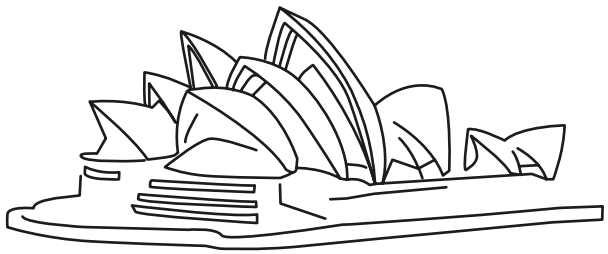
In the boardroom the VP of Marketing was celebrating: "*It was an amazing year. We now have a 60% share of the carbonated drinks market!*" The CEO pushed back: "*But against which drinks do we really compete? Water, coffee, tea, juice? We should be thinking what our actual share of total drinks is, as this is our true competitive landscape, not just carbonated drinks. So now what is our market share in this category? Maybe 5%?*"

07) Optimism Bias

We have a tendency to overestimate our likelihood of experiencing good events in our lives and underestimate the likelihood of suffering from negative events in our lives.

Or more simply, people think they'll be luckier than they are likely to be. It is estimated that 80% of us are affected by optimism bias. One study found that asking people for their predictions based on realistic "best guess" scenarios or asking them for their hoped-for "best case" scenarios produced indistinguishable results! For firms, this means that they often plough head first into ultimately flawed projects and investments or continue along the same trajectory in a rapidly changing market, believing that everything will turn out well.

A related phenomenon is the **planning fallacy**, the tendency for people and organisations to underestimate how long they will need to complete a task. There are hundreds of examples of this in business and governments. For example, the Eurofighter Typhoon, a joint defence project of several European countries, was delivered over four years late at a cost of £19 billion instead of the budgeted £7 billion. The Sydney Opera House may be the most legendary construction overrun of all time, originally estimated to be completed in 1963 for $7 million, and finally completed ten years later in 1973 for $102 million.



08) Overconfidence

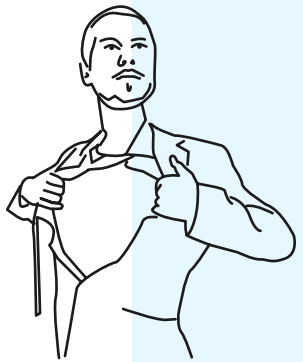
When our subjective confidence is far greater than our objective accuracy. Our bias to be optimistic also makes us overconfident about our abilities and skills.

In a recent interview, when asked which bias he would eliminate from our thinking if he had a magic wand, Daniel Kahneman replied "***Overconfidence***" – perhaps because its effects are so far reaching in all walks of life, but particularly in the workplace. "*Confidence mainly tells you an individual has constructed a coherent story in his mind, not necessarily that the story is true…*"

There are, in fact, many different manifestations of overconfidence bias, all related to positive illusions. For example: thinking we have more control than we do over events; overprecision – thinking we are more accurate in our judgements than we are; and 'illusory superiority', also known as the 'better than average effect' – where we believe we are more talented and skilled than we really are.

The problem can often lie in lazy thinking. Neuroscientists have identified that **overconfidence tends to occur when we don't engage our frontal cortex** – the logical, rational thinking part of the brain – but instead rely on gut feel and intuitive, automatic decision-making which can often be biased or poorly-informed.

In strategic business decisions, it can be extremely detrimental. Kahneman highlights how "*There are often entire aspects of the problem that you can't see—for example, am I ignoring what competitors might do? An executive might have a very strong intuition that a given product has promise, without considering the probability that a rival is already ahead in developing the same product.*" [7]



09) Bias Blind Spot

This all-encompassing bias identifies our tendency both to see ourselves as less biased than other people, and our ability to identify more cognitive biases in others than in ourselves.

The bias blind spot was first identified and defined by social psychologist Emily Pronin in 2002.[8] Data collected from three surveys found that people rated themselves as less affected by eight different cognitive biases than the "average American", classmates in a seminar, and fellow airport travellers. See Figure 1 below to see how people consistently rated themselves as less affected by bias than others.

Bias blind spot is thought to be caused by our belief that our perceptions reflect the real state of the world – known as 'naive realism'. American journalist Kathryn Schultz describes this brilliantly:

> *"The miracle of your mind isn't that you can see the world as it is. It's that you can see the world as it isn't."*

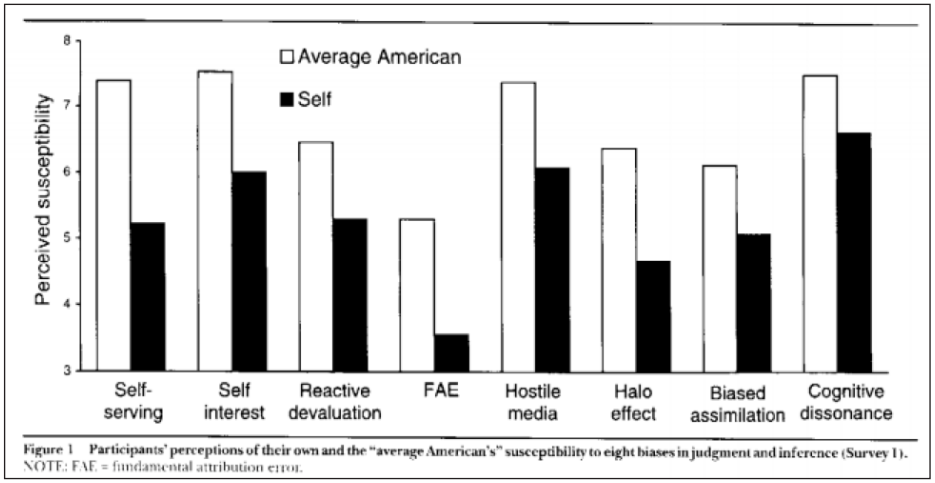


Figure 1 Participants' perceptions of their own and the "average American's" susceptibility to eight biases in judgment and inference (Survey 1). NOTE: FAE = fundamental attribution error.

Figure 1: Results of Emily Pronin's first study showing asymmetry in ratings across eight different biases for the self versus the "average American". Source: Pronin E, Lin DY, Ross L (2002) The bias blind spot: Perceptions of bias in self versus others. Personality Soc. Psych. Bull. 28:369–381

One team of researchers found that almost everyone seems to be affected by blind spot bias — in their research only one adult out of 661 said that they were more biased than the average person! However, participants did vary in the degree to which they thought they were less biased than others, although this was not related to intelligence, cognitive ability, decision-making ability, self-esteem, self-presentation or general personality traits.[9] So, being stupid or smart does not mean you are free of the blind spot bias...

A co-author of the study, Carey Morewedge, Associate professor of Marketing at Boston University explains:

> *"People seem to have no idea how biased they are. Whether a good decision-maker or a bad one, everyone thinks that they are less biased than their peers. This susceptibility to the bias blind spot appears to be pervasive, and is unrelated to people's intelligence, self-esteem, and actual ability to make unbiased judgments and decisions."*

Imagine the impact of this blindness in a monthly marketing directors' meeting where everyone thinks they are the least biased person in the room. Worryingly, researchers also found that people with a high degree of bias blind spot are those most likely to ignore the advice of peers or experts, and least likely to learn from debiasing training that could improve the quality of their decisions. Irene Scopelliti, the study's lead author said:

> *"People more prone to think they are less biased than others are less accurate at evaluating their abilities relative to the abilities of others, they listen less to others' advice, and are less likely to learn from training that would help them make less biased judgments."*

02

How to dial down organisational biases

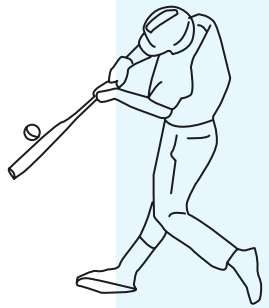
How we might strategically confront and dial these organisational biases down

Given our predisposition to allow decision-making to be swayed by these and many other biases, it is vital that we **explore possible ways to minimise their effects**. In this section, we introduce the thinking behind debiasing – that is, minimising or eliminating the effects of cognitive biases – and then look at a **three-arm approach** to debiasing organisations.

At a conference in 2017 on how to debias people's thinking and decision-making, Professor Richard Larrick at Duke University, an expert on debiasing who has spent over two decades looking at what techniques can help us think in less biased ways, believes that we are actually capable of debiasing ourselves.[10]

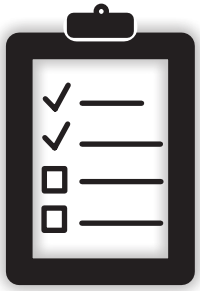
Some communities and companies have intuitively taught themselves how to debias their thinking. Baseball used to be polluted by biased thinking and teams often selected professional players based on the most available information – their most recent performances and how they compared to other well-known players – rather than objective statistics such as their on-base percentage and their record on avoiding strike-outs. But the work of the statistician Bill James and others has revolutionised the game and the player market is now far more savvy in recruiting players, using predictive modelling based on statistics known to be relevant to performance.

This objectivity has filtered down to the fans. Larrick highlights how, through the popularity of books like 'Moneyball' (now also a film), the baseball community have learned how to think more critically and ultimately change their culture. A fan on any baseball forum today will be slammed by their fellow fan community if they show evidence of any intuitive, bias ridden, gut-feel thinking, rich in fundamental attribution error[11], availability heuristic and recency effects which used to dominate the sport. Instead, fans are



regularly discussing statistical concepts on forums, using terms such as 'SSS' (small sample size), regression to the mean, and calling people out if they succumb to biases such as confirmation bias.

Whilst this debiasing is impressive, it may not be structured enough for the wider and more complex contexts we live and work in. Larrick believes that **being aware of how our thinking might be influenced by bias is not enough** to have a measurable effect on our decision making, in part due to bias blind spot and because groups and teams can often magnify biases. Instead **we need to invest in and learn new skills and habits** – consciously implementing strategies to ensure a more action-orientated self-awareness.



Our practical model and process for debiasing is focused on low vs. high frequency decision-making:

Low frequency decisions are irregular in type and occurrence.[12] For example, investment decisions, digital transformations, mergers and acquisitions, innovation directions or other strategic business decisions.

In contrast, high frequency decisions, a term used by McKinsey, are those that occur on a weekly if not daily basis and are more or less identical over time. These can usually be optimised using technological solutions; automated processes such as algorithms, analytical tools, procedures and checklists. Examples include programmes to debias hiring processes by blinding recruiters to the gender or ethnicity of applicants, or algorithms which process relevant data on criminals up for parole to indicate how likely they will be to commit another crime were they to be released.[13]

A three-step approach to debiasing low-frequency decisions:

01. **Bias awareness training via active learning:** Ensure a basic understanding of cognitive biases across the organisation to lay the groundwork
02. **Five simple cognitive strategies to debias solo decision-making:** Cognitive tools to challenge and broaden your own thinking
03. **Five cognitive strategies and structures for group decision-making:** Debias group-based decision-making

01 Bias awareness training via active learning:

At a high level, baseline training for people about the existence of biases in their thinking can help making them more aware of bias, reducing – if not eliminating – bias blind spot. This may begin to improve decision-making. **The key to success though seems to be in the type of training people receive, since passive learning – reading about, or hearing lectures about different cognitive biases – has shown little sustained impact.**

New research by Carey Morewedge and his colleagues has found that active learning, through playing a computer game designed to make people more aware of their decision-making biases, had lasting impacts on how participants made later decisions.

In the first stage, participants completed a test to measure baseline levels of six biases identified by behavioural scientists, such as bias blind spot, confirmation bias, fundamental attribution error and anchoring.

Next, participants were split into two groups – each learning about these six biases using different strategies:

- **Group 1 – Instructional video:** The video explained biases and decision-making shortcuts – known as heuristics – and how they can lead to sub-optimal decisions. The narrator then defined specific biases, presented situations in which they occur and provided examples.

- **Group 2 – Computer game:** The second group of participants played an interactive computer game called 'Missing, the pursuit of Terry Hughes'. The game elicited a number of biases by asking players to make decisions based on limited information. As well as learning about definitions of biases, participants also received personalised feedback on which biases they had exhibited to help avoid them in the next level.

Screenshot from 'Missing, the pursuit of Terry Hughes'

Feedback helped people to mark their progress and provided them with positive reinforcement. They also learnt about mitigating strategies to reduce bias, such as relevant statistical rules, methods of hypothesis testing and the importance of considering alternative explanations and anchors.

The computer game helped people to learn about and reduce biased decision-making in themselves across a number of different biases. An immediate post-test and an 8 or 12 week follow up revealed that the computer game was most successful in reducing bias. Playing the computer game reduced cognitive biases by 39% in the short term and by 29% in the long term whereas the instructional video reduced cognitive biases by around 20% in the short and long term. The greater efficacy of the computer game suggests that **personalised feedback and application through practice – active learning – are particularly important in reducing bias.**[14]

Notably, this research was sponsored by the Intelligence Advanced Research Projects Activity (IARPA), an organisation created in 2006 by the US Intelligence Community in the wake of the failure to correctly assess whether Saddam Hussein possessed Weapons of Mass Destruction. Shaken and humbled by this devastating error, where a number of cognitive biases such as confirmation bias were evident, the community looked at how it might improve its decision-making and estimations. To achieve this, its strategy is to fund cutting-edge research, like the example above, which has the potential to make the intelligence community less biased and more accurate in its work.[15]

02

Five simple cognitive strategies to debias solo decision-making:

Beyond this baseline training, behavioural scientists have found that our decision-making can be further improved with simple strategies to change our thinking habits and dial down specific biases. For example, forecasting accuracy can be improved by reducing the effects of normalcy bias, status quo bias, or overconfidence, or product testing can be improved by reducing the influence of confirmation bias.

Here are five simple strategies to improve individual decision-making:

1) Consider the opposite: Whilst some cognitive strategies are highly specific to a particular kind of bias, this strategy has been shown to reduce the effects of several different biases, including overconfidence, anchoring effects, confirmation bias and hindsight bias.

The basic idea is to ask yourself the question **'What are some reasons that my initial judgement might be wrong?'** This has been shown to help us look more broadly at the context and information available to us. It also assists in focusing our attention on contrary evidence for why our initial response may be flawed or why a new venture might fail.

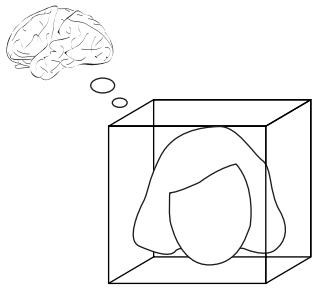
2) Forecast twice: To help us make more accurate forecasts, first predict a scenario, then assume it was wrong and take a fresh guess (without anchoring to it!). Then take an average of the two. Research by Stefan Herzog and Ralph Hertwig showed that when people thought about a problem twice, they tended to consider it from a different

perspective, or recalled different evidence which led them to reconsider.[16] This can help counter availability bias and WYSIATI effects by giving us time to recall and search for other relevant information.

Psychologist Philip Tetlock has identified that people make better judgements if they critique their first estimate and make a second one.[17] People who take a step back from their initial judgement and think it through from another perspective make more accurate forecasts overall.

If you can 'sleep on it' before you make your second guess, even better. You'll likely return to the problem less fatigued, sharper and more able to recall and think through important factors. Just putting some distance between your first and second estimate – perhaps a few hours, or ideally days or weeks – has been shown to improve estimation.[18]

3) Take an outsider's view: Imagine you're observing the decision you face from the outside, perhaps outside your team or organisation. What would someone external advise or think was likely? Taking a different perspective can help counter confirmation bias where our strong beliefs may distort the information we have collected for making the decision and how we have analysed it.



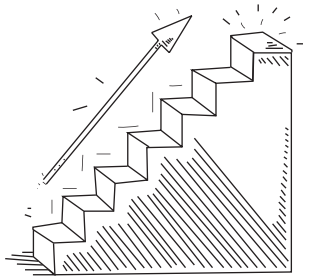
At a practical level, this could mean making a habit of reading from and talking to sources who are likely to have a different viewpoint. One highly proactive thinker created a database of hundreds of information sources on the political and economic affairs he was focused on, from mainstream media to obscure blogs. After categorising them by ideology, geography, culture and subject matter, he devised a programme to automatically select what he should read next to ensure he was exposed to an equal and diverse number of viewpoints.[19]

Secondly, look outside your own context and consider the fate of other, similar ventures or projects – how did they fare? This helps reduce planning fallacy – when we underestimate how long something will take to achieve – as we can be guided by the experience of other similar projects.

4) Make a low, medium and high estimate rather than stating a range: Make a low, medium and high estimate for a forecast or outcome. Only stating a range can lead us to give a narrower scope due to overconfidence, but thinking about low and high estimates separately, we give a wider spectrum of estimates. As a guide, these low and high estimates should be unlikely, but still possible. This approach works because it encourages us to think through a broader set of possibilities.

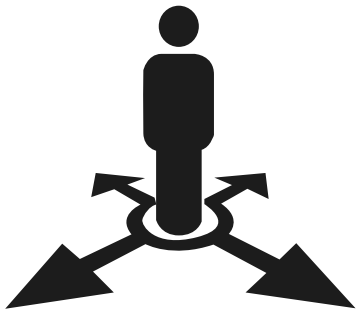
A related technique is to break the future down into chunks, making a forecast not just for the next quarter, but for the next month, for the next two months, and finally for the next three months.[20]

5) Build mechanisms for feedback: Finally, receiving feedback on our decision-making is crucial if we want to improve it. Without this, **we may not realise when we've used a sub-optimal decision-making process**, especially if feedback on our decision is delayed or if it's not clear what caused the eventual outcome.[21] Part of the success of the baseline training described above was the existence of real-time feedback for participants. Knowing when they had made errors in judgement helped them learn about their thinking styles and become more alert to biased thinking.



Philip Tetlock highlights how professions which receive real-time, accurate feedback, such as meteorologists or seasoned bridge players tend not to suffer from overconfidence and are more accurate in their respective weather forecasts and readings of the game. Police officers trying to deduce if a suspect is lying, however, are poor at detecting liars because they receive no – or at the most delayed – feedback. Instead, their overconfidence in their judgement and decision-making grows, falsely assuming that they will simply improve with experience. Tetlock says "**to learn from failure we must know *when* we fail.**"[22]

Therefore, simple strategies that enable us to receive feedback or to find low-stakes domains where real-time feedback is available, so we can practice making estimates are highly beneficial. We make many decisions or predictions, but how often do we actually record them and our accompanying reasoning? **Without the written record, it's easy to fall prey to hindsight bias** – thinking we knew the outcome all along – and it's harder to practice and learn from mistakes. Some of the most successful investors make detailed notes of every single investment and its outcome. Adopting this strategy means we can't fool ourselves and enables us to learn about our mistakes and frequent patterns in our decision-making.



03

Five cognitive strategies and structures for group decision-making

When working as part of a team, it can sometimes be even more important to use processes which avoid biased thinking, as groups and teams can often intensify existing biases, or worse, create them. The psychologist Irving Janis, who first defined the term 'groupthink' in 1972, drew attention to this:

> *"Members of any small cohesive group tend to maintain esprit de corps by unconsciously developing a number of shared illusions and related norms that interfere with critical thinking and reality testing."*[23]

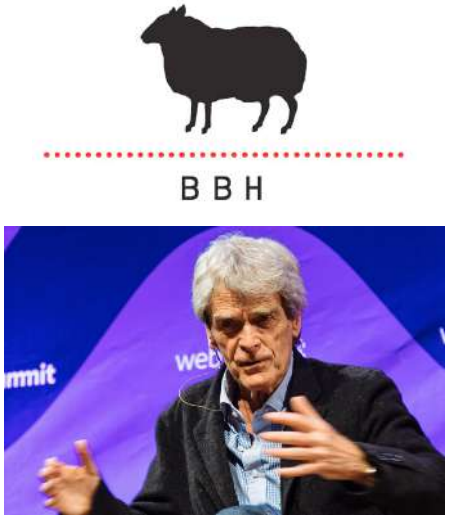
However, evidence suggests that with the right structures and culture in place, group and team decision-making can be far better than that of even the wisest and most expert individual.[24] Therefore, adopting systematic, evidence-based approaches which can be embedded in organisational processes and culture can smoothen the path to better decision-making in groups and teams. So, what practical steps can we take to debias organisational decision-making? Here are five different strategies designed for groups and teams:

1) Build a critical thinking culture:
Rather than groups aiming to 'get along' and keeping any points of difference hush hush, behavioural scientist Cass Sunstein shows how **groups can be primed or informed that the main goal is to think critically about a plan or strategy and put forward dissenting views.** Experiments have shown that priming people with a 'critical thinking' association made them much more likely to disclose what they knew rather than keeping quiet, going along with social norms and trying to 'get along'. This ultimately led to more productive and effective meetings.

Sunstein highlights several **successful organisations whose board members are willing to fight with one another,** such as the CIA, the US Department of Justice and The Vanguard Group. One simple motto for prompting critical thinking might be: "*Now tell me something I need to know, even if I don't want to hear it.*"

Amazon Founder and CEO Jeff Bezos also advocates to his team to "*have backbone, disagree and commit.*" Leadership principles for his employees offer a good starting point for critical priming:

> *"Leaders come forward with problems or information, even when doing so is awkward or embarrassing... Respectfully challenge decisions when they disagree, even when doing so is uncomfortable or exhausting... They do not compromise for the sake of social cohesion."*



Sir John Hegarty

BBH co-founder and famed advertiser Sir John Hegarty also recognises the importance of making sure that even as you become more senior, you can always hear and have access to opposing viewpoints. "***You become distanced from the people you can really count on because that is what success does***."[25] Creating structures and a working culture that still allow opposing viewpoints to be aired at any level is crucial to performance and raising the quality of thought and analysis.

Charlan Nemeth, a psychologist at the University of California, Berkeley, believes that:

> *Minority viewpoints are important, not because they tend to prevail, but because they stimulate divergent attention and thought. […] As a result, even when they are wrong, they contribute to the detection of novel solutions and decisions that, on balance, are qualitatively better.*[26]

2) Gather viewpoints privately:
Sunstein also draws attention to President Roosevelt's unique decision-making process as an effective anti-groupthink strategy. He was well-known for ensuring he heard all viewpoints before taking a decision, by **making a point of speaking privately with each adviser.** During these one-on-one discussions he would even give the impression that he agreed with the adviser's viewpoint, in order to encourage them to elaborate more on their opinion. Only after this thorough and balanced process would he make his final decision.

A similar, but more structured solution might be **anonymous voting where team-members are asked to vote on an issue before or at the start of a meeting.** Providing anonymity ensures that the number of dissenting views are revealed without a leader knowing exactly who disagrees.

3) Make a premortem:
'Premortems' imagine potential failures and try to explain the likely cause, but in a less critical way than a traditional devil's advocate strategy might. The premortem helps to reduce optimism bias as it makes risks more salient and vivid. Daniel Kahneman suggests:

> *Doing a premortem on a plan that is about to be adopted won't cause it to be abandoned. But it will probably be tweaked in ways that everybody will recognise as beneficial. So, the premortem is a low-cost, high-payoff kind of thing.*[27]

Psychologist Gary Klein points out that a premortem also flips usual team dynamics and tendencies to conform with the plan. He says

> *The logic is that instead of showing people that you are smart because you can come up with a good plan, you show you're smart by thinking of insightful reasons why this project might go south. If you make it part of your corporate culture, then you create an interesting competition: "I want to come up with some possible problem that other people haven't even thought of." The whole dynamic changes from trying to avoid anything that might disrupt harmony to trying to surface potential problems.*[28]

If you're working on a new project, perhaps developing a new line, take a step back and analyse some of those prototypes and samples using the premortem framework. Imagining what might cause it to fail – and then setting about solving that problem – could save the product and spare you a big headache later on.

4) Appoint a 'red team':

A more advanced approach than the premortem is the concept of red teaming. In loose terms, it can be defined as the practice of analysing a problem from an alternative perspective, often an adversary or competitor's perspective, acting as a devil's advocate. Its aim is to criticise, identify fundamental flaws and stress-test a team's plan, strategy or theory. More specifically, the read team's remit is to poke holes, help reveal the downsides and figure out what might go wrong.

The name 'red team' is possibly taken from US military war gaming during the Cold War as the US army (the blue team) tried to think through the eyes of the Soviet Red Army (the red team).[29]

The idea originates from warfare strategising and thinking through the enemy's eyes. Today, it is still used by all branches of military, as well as within government, law firms and companies such as Amazon and Google. It is best used when there is a lot at stake – money, people or both – and when a decision will be hard to undo, with lifelong consequences.

In practice, there are several different approaches, from one extreme, that of engaging external subject-matter experts to adopt an adversary role, to simply ensuring an internal team analyses a problem from a different angle. Whilst an external team may be free of pressure to conform and may have a genuine outsider's viewpoint, there is a danger that it may just go through the motions and lack sincere motivation, with little to gain in finding fault. It may also be too costly and time-consuming to be of practical use to marketers. Therefore, an internal team may be more credible, since it is more likely to have a real incentive to sway decision-making, as well as being more realistic and easier to implement.[30]

However, Charlan Nemeth and her team have found that what makes a devil's advocate the most credible, is when they genuinely oppose the mainstream viewpoint. In one study, where managers were asked to make a strategic investment decision – to invest in either Peru or in Kenya, most managers immediately preferred Peru. Whilst a few became more open to Kenya on hearing the views of an assigned devil's advocate, what really changed minds was hearing the viewpoint of someone who genuinely believed Kenya was the better investment decision. **Authenticity is valuable.**[31] Nemeth says:

> *Dissenting for the sake of dissenting is not useful. It is also not useful if it is 'pretend dissent' – for example, if role-played…* ***But when it is authentic, it stimulates thought; it clarifies and emboldens.***

5) Choose from a complete set of alternatives:

If we are choosing whether to do something or not, research has found that we make a better choice if we choose from a set of alternatives rather than considering something in isolation. For example, rather than a company choosing whether to open a new factory or office in Mumbai, it would be better to think about a number of alternative locations and select one from those. This is because we assess and process information differently depending on the context. **With no alternatives to compare, we are more likely to rely on instinct and heuristics, rather than on more objective information.**

Research by Iris Bohnet on how to reduce bias in a firm's recruitment process found that **strategies which enable and enhance comparison** between candidates can help reduce the effect of gender and other stereotypes in interviews and ensure the best candidate is selected.

Her research has shown that candidates interviewed consecutively – an approach Bohnet calls joint evaluation – enables the interviewer to compare them to one another. Joint evaluation saw the better candidate being chosen 92% of the time, as opposed to just 49% of the time in independent evaluations. Crucially, gender no longer had an effect on employer choice, which it did for independent evaluations. So, developing a shortlist of candidates and evaluating them consecutively – as close to one another as possible – can help to ensure a greater chance of selecting the best candidate for the job. [32]

Beyond hiring, another technique which can ensure we choose from a strong set of alternatives is to consider our ultimate objectives one by one and think about what sort of alternative best meets each objective. Thinking about each objective sequentially in a structured manner means we're more able to adopt a different perspective and generate a diverse, creative, and yet relevant set of options to choose from.

Professor Ralph Keeney, Duke University, who developed the approach, argues that too often, we jump straight into identifying solutions rather than holding back and first outlining our key objectives and values.

> *"You need to identify the [...] objectives that will focus creative thought on generating better ideas to solve the problem."*[33]

Keeney applied this approach in an expert workshop focused on improving emergency evacuation of individuals from large buildings following the World Trade Center disaster of 9/11. At the outset of the workshop, the 32 experts each came up with an average of 7.4 alternatives to improve building evacuation. Yet, after they had individually brainstormed and thought through the key objectives (such as improving communication by enabling responders to communicate effectively

within a building or to quickly move or guide people away from harm) each expert came up with an additional 6.5 alternatives. These creative alternatives included ideas such as notifying occupants about the evacuation via cell phone, use of photoluminescent markings and real-time monitoring of movement on stairs.[34]

Key points to remember – debiasing individual and group decision-making checklist:

01) Bias awareness training via active learning: train yourself to be aware of cognitive biases by participating **in an active learning programme.**

02) Five simple cognitive strategies to debias solo decision-making

Cognitive tools to challenge your own thinking and build new thinking habits:
a) Consider the opposite
b) Forecast twice or even three times
c) Take an outsider's view
d) Make three estimates or forecasts
e) Build mechanisms for feedback

03) Five cognitive strategies and structures for group decision-making

a) Build a critical thinking culture
b) Gather viewpoints privately
c) Make a premortem
d) Appoint a 'red team'
e) Chose from a complete set of alternatives

Source: The Behavioural Architects

03

Applied debiasing case studies

Three case studies bring to life how these debiasing strategies / techniques have been – and can be – applied in different contexts:

1. How **RWE**, the second largest electricity supplier in Germany, debiased their entire company decision-making culture
2. How **Google**'s People Analytics team is building a critical thinking culture
3. How a **multinational corporation** reduces biased thinking in its M&A negotiations

01

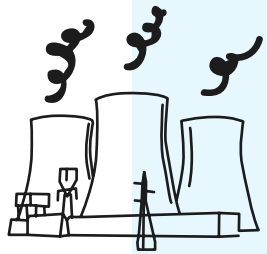
Strategies used:

- Baseline training
- Appoint a red team
- Make a premortem

How RWE changed their culture to debias organisational decision-making

Many organisations are realising the importance of putting strategies and programmes in place to reduce biased decision-making among individuals and teams. Emotional and subjective decision-making can be costly, potentially damaging a company's future for years to come, at huge cost to shareholders, jobs and revenues. RWE, a German utility company, found themselves in exactly this situation. Becoming aware of their decision-making errors, they **set about making radical changes to the way decisions were made across the company.**

Around a decade ago, RWE made a near-fatal assumption that conventional power generation would continue as normal, with commodity and power prices continuing to rise. Such **normalcy bias** is common among companies. Later analysis by RWE also revealed the presence of other biases such as **confirmation bias** (looking only for evidence to support the investment), **overconfidence, and optimism** in that they over-estimated their potential to deliver on such a huge investment. There were also cultural problems with conformity and **groupthink**, where dissenting opinions and open-mindedness were not encouraged. After rapidly investing more than 10 billion euros in conventional power plants, RWE found itself completely out of step as technological progress in renewables accelerated and the German energy system underwent a green transformation.



Realising their errors, they set out to counter bias and improve decision-making processes. RWE established a programme of cultural change from board level down to project managers.

- The first step was **baseline training**. Three hundred top level executives attended a two-week course run by external experts on being more self-aware of thought processes and decision-making. Within their broader teams, they implemented a training programme to increase baseline awareness and understanding of biases.

On top of that baseline understanding, they then implemented **group-based debiasing strategies** such as:

- **'Make a premortem',** getting teams to consider questions such as "*Imagine we are five years into the future and this whole project we're deciding on today has turned out to be a complete disaster. What could have happened in the meantime? What could have gone wrong?*" They now apply this regularly on large projects where there is considerable uncertainty, from technological to political or macroeconomic factors.

- **'Appoint a red team'** either by recruiting external experts to provide an outside viewpoint or appointing another team to be devil's advocates. For example, in 2015, RWE used a red team in the process of deciding whether and how much to bid in a project to build a wind farm. They knew the bidding would be very competitive and also recognised that their reputation was at stake, making it an emotional decision. Both the project team and the red team shared their cases in written form before the board meeting, which led to a far more objective and less emotional debate during the meeting itself. Ultimately, it resulted in a different decision than if the choice had been based purely on the viewpoint of the project team.

These strategies are now widely used across the company to the extent that new decision-making norms have been established in the company's culture. **It's common for someone to say in a meeting "I think we need some debiasing here."**

02

Strategies used:

- Baseline training
- Build a critical thinking culture

How Google's People Analytics Team are building a critical thinking culture

Google's HR team, better known as its People Analytics Team, is focused on evidence-based organisational change, learning from rigorous trials, insights from data science and academic analysis. This approach sets it ahead of many other organisations. Laszlo Bock, Senior Vice President of People Operations, was stunned at the relative lack of informed decision-making and understanding around workplace behaviour among businesses: "*We all have our opinions and case studies, but there is precious little scientific certainty around how to build great work environments, cultivate high performing teams, maximize productivity, or enhance happiness.*"[35]

Instead, Google have built a **critical thinking culture** by looking at what is already established in the academic literature. Mindful of how context can often alter outcomes, they then conduct their own in-house research and experiments across a wide range of areas, including on-boarding new employees, in-house training and development, organisational design, well-being and hiring and promotions. Prasad Setty, Google Vice President of People Analytics & Compensation, notes that

> "*whenever we are faced with a new people issue at Google now, we don't ask ourselves what does successful organization X do with this topic? Instead, we ask ourselves what does the literature say? I wanted us to be hypothesis-driven and help solve company problems and questions with data.*"

reWork

Google's unbiasing performance review checklists

When making important decisions about employees, like when to promote someone, it's critical to recognize and address how potential biases can influence the decision-making process.

Unbiasing Checklist for Promotion Decisions

Promotion Nominations	Biases Targeted
Define what success looks like at a particular level and don't allow extraneous data points (e.g., time in role) affect the decision	Stereotype-based Biases
Consider the whole bench of talent and narrow it down from there	Availability Bias
Consider concrete, behavioral examples throughout current level or role to narrow the pool	Recency, Horns & Halos, Availability Bias
Before Promotion Decision Discussions	**Biases Targeted**
Write down your own evaluation of employees before promotion committee	Anchoring Bias
Restate success criteria (e.g., what's expected of a person for that particular role and level)	Stereotype-based Biases
During Promotion Decision Discussions	**Biases Targeted**
Consider concrete, behavioral examples for current level or role	Recency, Horns & Halos, Availability Bias
Consider situational factors (in the workplace) that affected performance (e.g., lacked resources)	Fundamental Attribution Error
Consider if a promotion decision would change if your employee was in different social group	Stereotype-based Biases
Play devil's advocate when there are no significantly different perspectives raised	Anchoring Bias, Agreement Bias
Listen to the devil's advocate for employees you are invested in	Leniency Error, Self-serving Bias, Similar-to-me Bias
Consider the benefits of complementary and supplementary skill sets (i.e. the benefits of being different)	Self-serving Bias

Source: Google

> For example, one initiative looked at how senior management could make more objective, informed and efficient promotion decisions for Google's thousands of software engineers, that would be less subject to emotion, intuition and bias. By analysing their data on the performance and promotions of their software engineers, and combining their findings with insights from the behavioural sciences, they were able to feed the most relevant and objective information to each of the committees in charge of making promotions, arming them with better, more accurate information.[36]

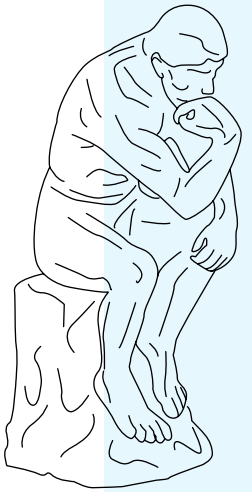
More recently, they have created a debiasing checklist for making promotions (see image), listing common biases in promotion decisions and suggestions on dialling them down, and providing their teams with **baseline training** in cognitive biases. For example, the checklist highlighted stereotype biases as a problem and prompted the selection panel to consider if their judgement might change if the employee belonged to a different social group, or to be more aware of fundamental attribution error by considering situational factors which may have aided or hindered an employee's performance.[37]

Google tested their checklists in a randomised controlled trial. Managers involved in making promotion decisions were placed into one of three different conditions:

- Some managers were sent the debiasing checklist via email before the meeting to discuss promotions.
- Another group of managers were not only emailed the checklist, but at the meeting itself, meeting leaders handed out hard copies of the checklist and encouraged all participants to 'call out' bias if they noticed biased viewpoints and decisions, helping to build and commit to that all-important **critical thinking culture.**
- A final group acted as the control condition where no changes took place to the existing promotion process.

Google found that the biggest and most positive impact came in the second condition. Whilst both the first and second group of managers noticed bias more, the second group felt they had greater permission to speak out if they noticed biased viewpoints decisions. Because the leader of the meeting – an authority figure – had encouraged use of the checklist and had emphasised a critical thinking approach, people felt more comfortable pointing out where bias was affecting their discussion.

Notably, the first group actually felt that the promotion process was more unfair and biased than managers in the control group, perhaps because whilst they noticed biases such as stereotype biases or groupthink, they felt less empowered to fight against them because they had not been encouraged to use the checklist.



03

Strategies used:

- Baseline training
- Simple cognitive strategies

Reducing biased decision-making in M&A negotiations

An M&A team from a large global corporation came to us to see how they could reduce biased decision-making during a deal. A biased decision can mean acquiring what is actually a poorly performing company, paying too much, or missing out on a deal that would be beneficial.

The team members were all highly qualified, most with MBAs, and had previously had training in all sorts of negotiation best practices and financial modelling from some of the leading organisations in the world. They all knew the hard elements of how to put a deal together, yet there was a sense that deals often struggled, for softer, more emotional reasons. Might training in behavioural science enable them to think differently?

First, we interviewed each member of the team, asking them to describe a typical M&A deal, in order to understand the complete behavioural journey, from initial research and meetings with a company, through to due diligence, the fine tuning of an agreement, and finally a merger. This helped us to understand what biases are often operating, both in the M&A team and in the company they are seeking to buy. We identified that the team often fell foul of a number of biases, including:

Anchoring was evident in that naming a price early on in the deal often resulted in the team being heavily anchored to that number rather than a more realistic price based on later research through due diligence.

Confirmation bias was also often a major factor as the team conducted due diligence for a deal. This meant they often looked only for evidence to go through with the deal in the company's financial data and overlooked anything troubling.

Due to the **Sunk cost bias**, even if the deal is not looking good after many weeks or months of work, team members felt they have invested so much by that point, they were unwilling to withdraw their initial offer and move on.

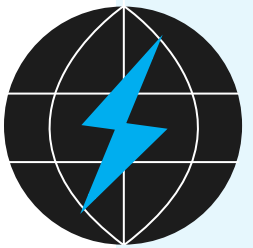
Overconfidence often led to problems in that they overestimated their ability to mitigate risks in the deal.

Optimism bias and planning fallacy meant that there were often unrealistic timings for the deal, particularly in the due diligence stage.

We also worked with the team to understand what processes the company being acquired was going through and how bias might be affecting their decision-making. For instance, **endowment bias** often leads founders or owners of a business to overvalue the company they have built.

With this deep understanding of the team's decision-making, we helped increase their awareness of bias with baseline training. We then worked with them to build a structured toolkit to minimise bias in their decision-making, comprising of simple, yet effective strategies. For example, to reduce overconfidence in the deal, they might obtain an outside perspective to review the business plan. Or to eliminate confirmation bias as the team progressed through the due diligence stage, we advised implementing a rigorous peer review process by recruiting someone divorced from the detail who could challenge the team's thinking, and reduce or offset any biased interpretations of the findings.

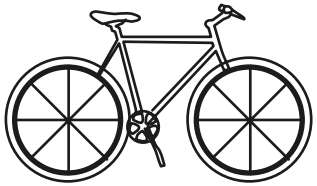
Ultimately, the toolkit has enabled the M&A team to be far more effective in the relationships and deals they pursue, optimising the development, strength and performance of the global business as a whole.



Conclusion

We have shown how numerous cognitive biases are manifested in the organisations we work in and how these biases **can lead to potentially sub-optimal judgements and decision-making in many critical areas of marketing and business in general.**

The good news is we are all capable of learning how these cognitive biases can affect our decision-making and behaviour. With **simple strategies, tools and processes built into the culture of organisations, we can ensure bias is reduced in the perceptions, judgements and decisions of groups and teams**. Perhaps one day, just like people have art class or learn to ride a bike, we'll also take 'debiasing class' to help change our thinking habits and enhance our deliberative thinking.



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The Behavioural Architects

The Behavioural Architects (TBA) is an award-winning global insight, research and consultancy business with behavioural science at its core. It was founded in 2011 by Crawford Hollingworth, Sian Davies and Sarah Davies.

The company was one of the first agencies built around the new insights coming from the behavioural sciences. This new thinking has inspired them to develop powerful frameworks that fuel deeper understanding of consumer behaviour and behaviour change. TBA has offices in London, Oxford, Sydney, Melbourne, Shanghai and New York and has worked with many global corporations, NGOs and governments, reinvigorating traditional research methodologies alongside pioneering new ones. Their aim is to make behavioural insights both accessible and actionable for clients.

The Behavioural Architects invests heavily in its core intelligence team dedicated to supporting its global teams, keeping them up to speed with developments in the behavioural science field; from both the academic arena and among top practitioners.

In 2019 TBA won Best Presentation at the Market Research Society's (MRS) Annual Conference Awards and ESOMAR's Best Global Paper, as well as being a finalist for AURA's 2019 Award for Most Inspiring Agency Speaker. Previous awards include winning the AQR Prosper Riley-Smith Qualitative Excellence Award in 2018, the highly competitive MRS Best Place to Work in 2015 and MRS Best New Agency in 2013.

For more information, please visit www.thebearchitects.com

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