



C4D

Coaching for Decision-Making



Biases in Human Decision Making

By Steve Brown

How good are yours?



The environment we find ourselves in today is more challenging, more complex, and changing more rapidly than it ever has. Decisions have to be made quickly, locally, and efficiently. Our decisions, and those of our organizations, are essential to continued success and therefore critical appraisal of those decisions should be part of our routine operating procedures as *Decisions Drive Performance*. Reflecting on the quality of our decisions and the potential errors will increase the potential for enhancing performance.

Decisions and Cognitive Bias



**35000 decisions
every day**



**Decision making +
skill**



= Capability

In almost all situations there are a number of options from which to pick and make your choice. Examining that choice, the perceived options, and the rationale behind that choice, *the decision*, underpins good coaching offering insight into the individuals thought process. Once complete, the skills applied to that decision can be assessed.

Cognitive biases play a key role in our decision making process. Cognitive biases are common and collectively influence much of our thoughts and at the end of the day, our decision making. Many of these biases are inevitable. We simply do not have time to evaluate every thought related to every decision for the presence of a bias. Understanding these biases is helpful in learning how we can challenge ourselves and others to overcome these biases, before they can lead to poor decisions in life and business. Understanding these biases leads to more effective communication, decision making, and commercial strategies creating more efficient and/or profitable businesses.



As human beings we are often defined by our skeletons, our tissues, and our organs.

As people we are more often defined by the decisions we make or do not make. When we are making judgments and decisions about the world around us, we like to think that we are objective, logical, and capable of taking in and evaluating all the information that is available to us. The reality is, however, that our judgments and decisions are often riddled with errors and influenced by a wide variety of biases. The human brain is both remarkable and powerful, but certainly subject to limitations.

Scientists have shown that the human brain can take in around 2.300,000 'bits' of information at any one time. However, since our attention is a limited resource and cannot possibly take in every possible detail of an event, we filter the information down to a workable 3-5 thoughts simultaneously. We filter this information based on our experiences to date and the actions we are currently taking or wish to take.

In order to cope with the tremendous amount of information we encounter and to speed up the decision-making process, the brain relies on some mental strategies to simplify things so we do not have to spend endless amounts of time analysing every detail.

One of these strategies is called **heuristics**.



Heuristics are commonly defined as cognitive shortcuts or rules of thumb that simplify decisions, represent a process of substituting a difficult question with an easier one (*Kahneman, 2003*) They are simple efficient rules learned or hard coded by evolution that can help people make decision quickly. Heuristics are strategies derived from previous experiences with similar problems. These strategies rely on using readily accessible, though loosely applicable, information to control problem solving in human beings, machines, and abstract issues.

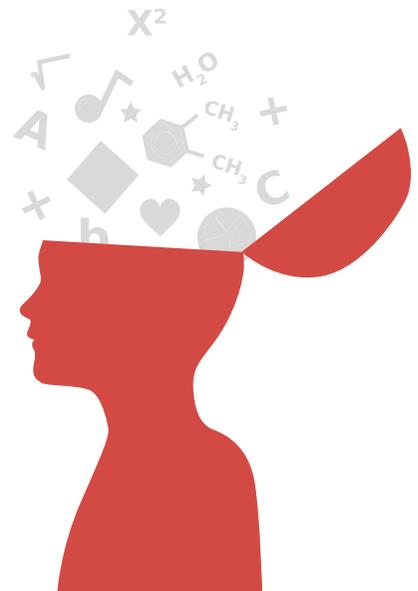
The most fundamental heuristic is trial and error which can be used in everything from matching nuts and bolts to finding the values of variables in algebra problems.

When we are trying to solve a problem or make a decision, we often turn to these mental shortcuts (sometimes referred to as 'chunking') when we need a quick solution. However, Heuristics can also lead to **cognitive biases**.

Cognitive biases are just one type of fundamental limitation on human thinking.

A cognitive bias is a type of error in thinking that occurs when people are processing and interpreting information in the world around them. Cognitive biases are often a result of our attempt to simplify information processing. These are the 'rules of thumb' that help us make sense of the world and reach decisions with relative speed.

If you had to think about every possible option when making a decision, it would probably take a lot of time to make even the simplest choice. Because of the sheer complexity of the world around us and the amount of information in the environment, it is necessary sometimes to rely on some mental shortcuts that allow us to act quickly.



Cognitive biases can be caused by a number of different things, but it is these mental shortcuts that often play a major contributing role. Whilst they can often be surprisingly accurate, they can also lead to errors in thinking. Social pressures, individual motivations, emotions, and limits on the mind's ability to process information can also contribute to these biases.

These biases are not necessarily all bad, however. They allow us to reach decisions quickly. This can be vital if we are facing a dangerous or threatening situation. If you are walking down a dark alley and spot a dark shadow that seems to be following you, a cognitive bias might lead you to assume that it is a mugger and that you need to exit the alley as quickly as possible.

The dark shadow may have simply been caused by a flag waving in the breeze, but relying on mental shortcuts can often get you out of the way of danger in situations where decisions need to be made quickly. Unfortunately, these biases sometimes trip us up, leading to poor decisions and bad judgments.

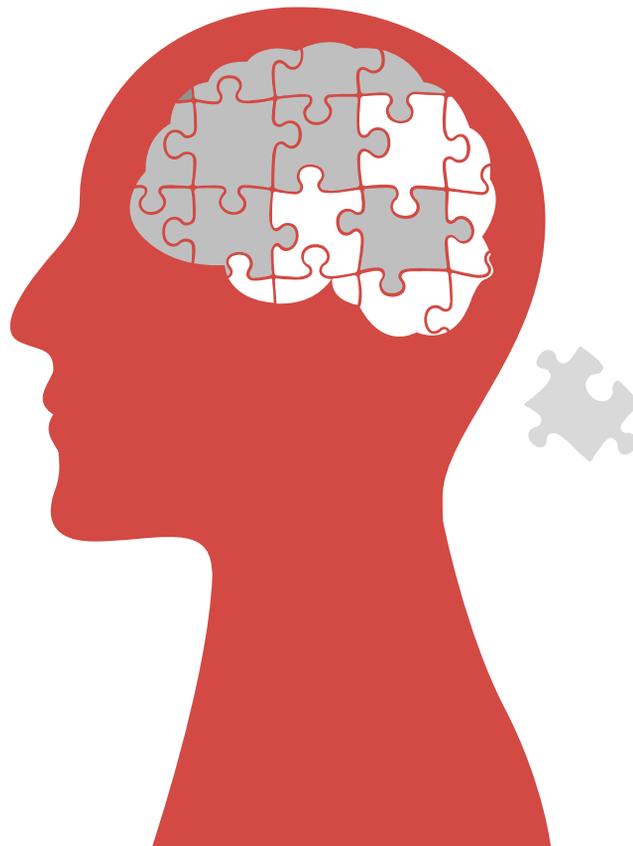
Sometimes these biases are related to memory. The way you remember an event may be biased for a number of reasons and that in turn can lead to biased thinking and decision-making. In other instance, cognitive biases might be related to problems with attention. Since attention is a limited resource, people have to be selective about what they pay attention to in the world around them. Because of this, subtle biases can creep in and influence the way we see and think about the world and impact the decisions we make.

Cognitive bias and the four problems they solve

Cognitive biases are just tools, useful in the right contexts, harmful in others. They're even pretty good at what they're meant to do. There are four problems that biases help us address:

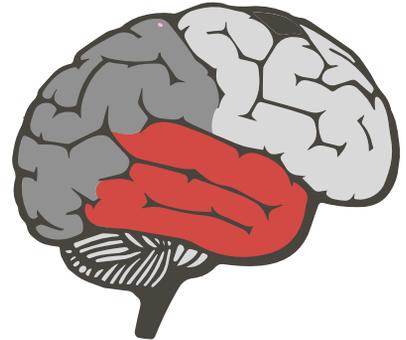
Information overload, lack of meaning, the need to act fast, and how to know what needs to be remembered for later.

Keeping these four problems and the four consequences of our brain's strategy to solve them will help insure that we notice our own biases more often.



Problem 1: What should we remember?

In order to manage the enormous amount of data being absorbed through our five senses as efficiently as possible, our brains need to remember the most important and useful bits of new information and inform the other systems so they can adapt and improve over time. However, *our memory reinforces errors*. Some of the stuff we remember for later just makes all of our systems more biased, and more damaging to our thought processes.



We simply cannot remember everything. We can only afford to keep around the bits that are most likely to prove useful in the future. We need to make trade-offs around what we try to remember and what we forget. For example, we prefer generalizations over specifics because they take up less space. When there are lots of irreducible details, we pick out a few standout items to save and discard the rest

We discard specifics to form generalities. We do this out of necessity, but the impact of implicit associations, stereotypes, and prejudice results in some of the most glaringly bad consequences from our full set of cognitive biases.

We reduce events and lists to their key elements. It is difficult to reduce events and lists to generalities, so instead we pick out a few items to represent the whole. Either putting emphasis on the story rather than the source or the place in the list (primacy/ recency).

We store memories differently based on how they were experienced. Our brains will only encode information that it deems important at the time, but this decision can be affected by other circumstances (what else is happening, how is the information presenting itself, can we easily find the information again if we need to, etc) that have little to do with the information's value.

We put greater emphasis on negative events than positive events. Our capacity to weigh negative input so heavily most likely evolved for a good reason - to keep us out of harm's way. From the dawn of human history, our very survival depended on our skill at dodging danger. The brain developed systems that would make it unavoidable for us not to notice danger and thus, hopefully, respond to it.

We notice when something has changed and we will generally tend to weigh the significance of the new value by the direction the change happened (positive or negative) we have a tendency to over-value the effect of small quantitative differences when comparing options – again it is a survival trait but comes to the fore in decision making. When we are making decision in comparison we notice small difference. Once we have made the decision and no longer have the comparison we do not have the same sensitivity.

We edit and reinforce some memories after the fact. During that process, memories can become stronger, however various details can also get accidentally swapped. We sometimes accidentally inject a detail into the memory that wasn't there before.

Problem 2: Too much information



In order to avoid drowning in information overload, our brains need to skim and filter insane amounts of information and quickly, almost effortlessly, decide which few things in that constant stream are actually important and call those out.

However, *we do not see everything*. Some of the information we filter out is actually useful and important.

Problem 2: Too much information.

There is just too much information in the world, we have no choice but to filter almost all of it out. Our brain uses a few simple tricks to pick out the bits of information that are most likely going to be useful in some way.

We notice things that are already primed in memory or repeated often. This is the simple rule that our brains are more likely to notice things that are related to stuff that's recently been loaded in memory.

We are drawn to details that confirm our own existing beliefs. This is a big one. As is the corollary: we tend to ignore details that contradicts our own beliefs.

We notice when something has changed. And we will generally tend to weigh the significance of the new value by the direction the change happened (positive or negative) more than re-evaluating the new value as if it had been presented alone. Also applies to when we compare two similar things.

Bizarre/funny/visually-striking/anthropomorphic things stick out more than non-bizarre/unfunny things. Our brains tend to boost the importance of things that are unusual or surprising. Alternatively, we tend to skip over information that we think is ordinary or expected.

We notice flaws in others more easily than flaws in ourselves. Yes, before you see this entire article as a list of quirks that compromise how other people think, realize that you are also subject to these biases.

Problem 3: Not enough meaning (too little information)

In order to construct meaning out of the bits and pieces of information that come to our attention, we need to fill in the gaps, and map it all to our existing mental models. However, *Our search for meaning can conjure illusions.* We sometimes imagine details that were filled in by our assumptions, and construct meaning and stories that are not really there.

The world is very confusing, and we end up only seeing a tiny sliver of it, but we need to make some sense of it in order to survive. Once the reduced stream of information comes in, we connect the dots, fill in the gaps with stuff we already think we know, and update our mental models of the world .

We find stories and patterns even in sparse data. Since we only get a tiny sliver of the world's information, and also filter out almost everything else, we never have the luxury of having the full story. This is how our brain reconstructs the world to feel complete inside our heads.

We fill in characteristics from stereotypes, generalities, and prior histories whenever there are new specific instances or gaps in information. When we have partial information about a specific thing that belongs to a group of things we are pretty familiar with, our brain has no problem filling in the gaps with best guesses or what other trusted sources provide. Conveniently, we then forget which parts were real and which were filled in.

We imagine things and people we are familiar with or fond of as better than things and people we aren't familiar with or fond of. Similar to the above but the filled-in bits generally also include built in assumptions about the quality and value of the thing we are looking at.

We simplify probabilities and numbers to make them easier to think about. Our subconscious mind is terrible at maths and generally gets all kinds of things wrong about the likelihood of something happening if any data is missing.

We think we know what others are thinking. In some cases this means that we assume that they know what we know, in other cases we assume they are thinking about us as much as we are thinking about ourselves. It is basically just a case of us modelling their own mind after our own (or in some cases after a much less complicated mind than our own).

We project our current mindset and assumptions onto the past and future. Magnified also by the fact that we are not very good at imagining how quickly or slowly things will happen or change over time.



Problem 4: Need to act fast



In order to act fast, our brains need to make split-second decisions that could impact our chances for survival, security, or success, and feel confident that we can make things happen. However, *quick decisions can be seriously flawed.* Some of the quick reactions and decisions we jump to are unfair, self-serving, risk averse and counter-productive.

We are constrained by time and information, and yet we cannot let that paralyze us. Without the ability to act fast in the face of uncertainty, we surely would have perished as a species long ago. With every piece of new information, we need to do our best to assess our ability to affect the situation, apply it to decisions, simulate the future to predict what might happen next, and otherwise act on our new insight.

In order to act, we need to be confident in our ability to make an impact and to feel like what we do is important. In reality, most of this confidence can be classified as overconfidence, but without it we might not act at all.

In order to stay focused, we favour the immediate, relatable thing in front of us over the delayed and distant. We value stuff more in the present than in the future, and relate more to stories of specific individuals than anonymous individuals or groups. I am surprised I am surprised there aren't more biases found under this one, considering how much it impacts how we think about the world.

In order to get anything done, we are motivated to complete things that we have already invested time and energy in. The behavioural economist's version of Newton's first law of motion: an object in motion stays in motion. This helps us finish things, even if we come across more and more reasons to give up.

In order to avoid mistakes, we are motivated to preserve our autonomy and status in a group, and to avoid irreversible decisions. If we must choose, we tend to choose the option that is perceived as the least risky or that preserves the status quo. Better the devil you know than the devil you do not. We favour options that appear simple or that have more complete information over more.

We favour options that appear simple or that have more complete information over more complex, ambiguous options. We would rather do the quick, simple thing than the important complicated thing, even if the important complicated thing is ultimately a better use of time and energy.

The Two Systems: System 1 Thinking & System 2 Thinking



To understand and identify the moment our cognitive biases take place in real-time, we must firstly comprehend how our brain processes our choices and judgements. Thanks to the wonderful works of Danial Kahneman, we can now confidently discuss our cognitive processes through a useful construction that we can all make sense of: We now know that we apprehend the world in two radically opposed ways, employing two fundamentally different modes of thought: "System 1" and "System 2".

It is important to note, these systems we speak of are not systems in the standard sense of physical entities. There is no single part of the brain that either of these systems could be located, although the amygdala may well be one of the dominant influences of system 1 thinking. The construction we are using here to describe the mind, is an aid to allow us to discuss the intricate complexities of choice and judgement without misconception. we are able to overcome vast cognitive limitations of complexity by forming useful little devices like: *"That building was the height of 10 double decker buses"*, and that is precisely what we are doing here - utilising a language that accurately describes the brain's method of operating in a way that we can understand.



SYSTEM 1

Contains your personal model of the world, that is continuously crosschecked to perceive external events around you as normal or surprising. This automated thinking process is heavily influenced by context and your previous experiences to aid in assimilating newly acquired stimuli into pre-existing knowledge structures. This whole process is truly spectacular when you think about it. It is fast; it is intuitive, associative, metaphorical, automatic, impressionistic, and it cannot be switched off. Its operations involve no sense of intentional control, but it is the "secret author of many of the choices and judgments you make".

System 1 is for the most part pretty good at what it does; it is highly sensitive to subtle environmental cues, signs of danger, and so on. It kept our remote ancestors alive. It does, however, pay a high price for speed. It loves to simplify and make assumptions. It is hopelessly bad at the kind of statistical thinking often required for good decisions, it jumps wildly to conclusions and it is subject to a fantastic suite of irrational biases and interference effects. We will be exploring a heuristic process of acknowledging our cognitive blind spots, that will better enable us to overcome the shortfalls of lazy thinking when the stakes are high



SYSTEM 2

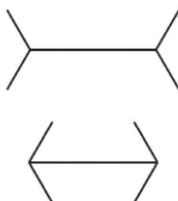
System 2 is our rational, conscious self that formulates our everyday plans, beliefs and actions through calculated methodical thinking.

System 2 is the logical system that we are empowering when we are developing our critical thinking skills we are granting System 2 more permission to weigh in on matters that may have once been monopolised by automated, System 1 thinking in our everyday activities. A switching process that is introducing a change in our mindful authority.

System 2 processing is cognitively very demanding, and intrinsically more taxing than your default thinking, so If your body can avoid complex thinking, it will. The nervous system typically consumes more glucose than most other parts of the body, and heavy mental activity via System 2 thinking appears to be rather expensive in the currency of glucose. There will be many moments in our lives when our cognitive biases will be unavoidable, simply because System 2 lacks the clues to indicate when an error is taking place. Continuous vigilance over our automated thinking processes would be expensive in terms of energy and therefore be impractical. Thus, our best solution is a compromise - We will learn to recognise the situations that may be prone to mistakes and we will learn to ask the right questions.

Answer the questions below, then see the explanation on the next page

Which line is longer?



WHAT'S THE BALL COST?

A BAT AND A BALL

A bat and a ball cost \$1.10. The bat costs \$1 more than the ball. How much does the ball cost?

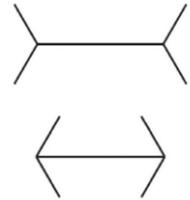


WHICH LINE IS LONGER?

The images above demonstrate this process in action. If we are to take a quick look at these shapes, it seems quite obvious that the top line is longer than the bottom line. This would be **incorrect**. The lines are the same length. It doesn't matter how many times you've witnessed this illusion, or verified the length of the lines through reasoned analysis - Your brain will continue to see the top line as the longest. If we are to desire greater accuracy in our judgements, we should all be aware of the hard-wired mental shortcuts in play and what limitations they may bring. Our brain filters out much of the visual information before it is processed and therefore has to guess what is seen based on past experiences leading to errors of perspective and visual illusions

Now lets look at the answer to a different type of problem.

Which line is longer?



HOW MUCH DOES THE BALL COST?

A bat and a ball cost £1.10 in total. The bat costs £1 more than the ball.

How much does the ball cost?

For most people, their impulsive thinking would likely conclude that the ball costs 10 pence. This would be incorrect. The ball would in fact, cost 5 pence. An annoying eye-opener for many of you, this is a simple maths questions – it is easy isn't it? – no need to engage system two thinking. Until now! At this moment, your system 2 is in full flow and the energy used is taking precedence over other cognitive tasks.

Check out the following explanation if you're still struggling to work it out:

(incorrect) If you say the ball = 0.10, the bat must cost £1.10 to be £1 more. Total = £1.20

(correct) Ball = 0.05, the bat must cost £1.05 to be £1 more. Total = £1.10. This is a typical example of System 2 bailing out your automated, impulsive System 1 when it takes a short cut . But let's not forget, if it wasn't for this the answer and/or System 2 pointing out the incorrect answer You may have been satisfied with your answer. And this is the problem. We all regularly make impulsive choices in our local environments that are not factually accurate. We may remain unaware of our errors due to the absence of clues that would imply we are missing the mark.

WHAT'S THE BALL COST?

A BAT AND A BALL

A bat and a ball cost \$1.10. The bat costs \$1 more than the ball. How much does the ball cost?



Understanding bias = Increasing performance

COMMUNICATION

Biases influence the way people process information and make decisions. In communications, these often represent the obstacles and opportunities we have to work with. It is critical to work within a persons own psychological tendencies and therefore understanding bias **increases influence.**



RAPID DECISION MAKING

In most organisations it is critical to take timely decisions. However balancing the speed of the decision with the quality is critical for success. Examining the biases that hinder this process will increase will **increase productivity.**



RECRUITMENT, REWARD AND RECOGNITION

One of the most important elements of a successful organisation is ensuring the 'right' people are in the 'right' roles. Examine the potential biases in recruitment, and reward and recognition programmes will help support your goals and **ensure alignment of performance reviews.**



INNOVATION AND CREATIVITY

The need for creative problem solving has arisen as more and more management problems require creative insights in order to find suitable solutions. Creativity is the ability to produce new and unique ideas, innovation is the implementation of that creativity. Examining the biases that can hinder innovation and creativity will help **develop new solutions.**



For more information on how we can help increase your performance please contact us.

As adults we make around **35,000 different decisions** every day, often **with multiple choices** for each. We know from experience that the quality of those **decisions directly impacts** the quality of the **performance**.

Whilst there are many workshops looking at skills, there is less support to help us examine our decision-making processes. **C4D are an innovative new partnership** between Zealth and Elevate business coaching lead by Jesper Zacho and Steve Brown.

C4D are directed at increasing the quality of decision making by examining the unconscious biases inherent in those decisions.



STEVE BROWN
Elevate Business Coaching



37 years Pharma experience



Sterling Health
Schering Plough,
Eli Lilly



Master Coach;
Master practitioner
NLP



Master Practitioner
and Trainer
Hypnosis



Award winning
Capability and
Training leader

Experience



International and Regional Capability leader with experience in Europe Middle East and Australia



Commercial Excellence: Significant experience leading capabilities in Account management, strategic planning, Sales excellence, sales leadership development and sales management coaching



International and Regional Capability leader with experience in Europe Middle East and Australia



Expertise in rapid and accurate diagnosis and benchmarking of sales and coaching interactions



Lead the development of the new selling process for Blue chip Pharma company in Europe



Designed, developed and lead the implementation of the new coaching framework



Designed, developed and lead the implementation of the new coaching framework now utilised across Global Blue chip Pharma organisation



Therapeutic Area Experience: Oncology, Cardiology, Diabetes, Bone Disease, Psychiatry, Primary care



I am able to control only that which I am aware of. That which I am unaware of controls me. Awareness empowers me.

Sir John Whitmore. Author and Performance Coach

Biases are often misunderstood, are loaded with negative connotations, elicit thoughts of closed mindedness, ignorance and bigotry but are a tendency in all of us.

Bias's influence our decision making and therefore understanding bias is key to decision making.

Understanding bias helps prevent poor decisions, increases influence and ensures more agreement



Take advantage of our unique FREE decision making bias assessment and receive your personal bias assessment