BIAS

#2 Cognitive Bias

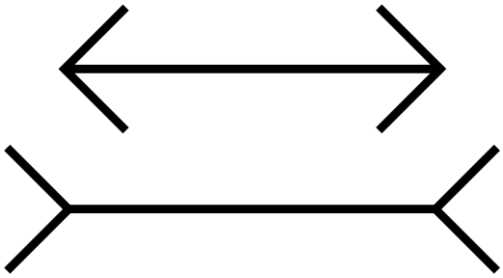
***COGNITIVE BIAS***

What is a cognitive bias? You will have heard the term bias; the word can have a negative connotation as it can denote prejudice against others. Further, you might even dismiss the idea when I say these biases are normal and we all have them.

Simply put, cognitive biases are *predictable*, *consistent*, and *repeatable* mental errors in our thinking and processing of information that can lead to illogical or irrational judgments or decisions. Note a key word here - "can". Cognitive biases do not necessarily lead to poor or irrational decisions. I wrote about this concept in my blog article on the Rose & Associates platform.

***LET'S SEE HOW THEY MAY WORK***

I like to use this famous optical illusion to help us understand how these cognitive biases work in our thinking. You have all seen this one before ….. which line is longer?



What is so infuriating about this figure is that we know the answer but cannot see it. Most of us will believe the lower image line length is longer, but in fact they are the same (if you don't believe me, measure the lines). So, I know you will believe the lower line is longer (*predictable*), you will always think that (*consistent*), and no matter how many times you see this figure you will have the same answer (*repeatable*).

Cognitive biases work similarly to this example. The difference is that where the line length judgment is a mistake that can be rectified by measuring the lines, a cognitive bias is an unconscious mental error in our processing of information that can lead to poor decisions.

***WHY? REFLEXIVE VS REFLECTIVE THINKING***

One reason this occurs is that when we think about things and make decisions, we tend to react "reflexively"; in other words, we use intuition, instinct, and sometimes emotion. Our reaction tends to be automatic and quick, taking little time and mental effort.

Let's take a look at a great example from *Thinking, Fast and Slow* by Daniel Kahneman (Penguin Books, 2011). What visual image comes to mind when you read the following:

*Ann approached the bank*

If you are like most of us, you would have thought about money, a building, a loan; and if you wanted to find out more about Ann, you would be asking questions related to these ideas. Yet, what if Ann was in a boat? Clearly your questions would probably not provide any knowledge about Ann! That's reflexive thinking. Instead, what we need to do is to think "reflectively", which invokes critical, deductive, rational, and logical thinking.

Unfortunately, that is not how our brains work. Reflexive thinking is the automatic and unconscious response that comes first; we actually have to work at thinking reflectively. This example shows the need to consider alternative scenarios when making judgments.

***BIAS, BIAS EVERYWHERE***

There are hundreds of biases, but the goal in this blog is to focus on the biases that influence our evaluations, behaviours and decision-making. For a listing of different biases, see Wikipedia List of Cognitive Biases.

So, let's play a little game to show you how biases can influence your judgments. In ten seconds, count how many words in the English language you can think of that start with the letter K. Ready, go …….

Ok; well done. Now, let's try that again. In 10 seconds count how many words in the English language you can think of where K is the fourth letter. Ready, go ……

If you are like most English-speaking people, you probably came up with lots of words that started with K; but the fourth letter? Perhaps none! Which of the two is more likely, words that start with the letter K or have K as the fourth letter? It turns out that there are about 50% more words where K is the fourth letter! What's going on? This is known as the *availability* bias (also known as the *recency bias*). It reflects our tendency to overestimate the likelihood of events that are easier to recall. Since we were using quick reflexive thinking, it was a lot easier to think of words starting with the letter K so we assumed there are more of them!

***SO WHAT?***

Ok; hopefully you found that interesting, but so what? Well, imagine you are working up a new geologic play and you note that there have been some successful wells; this might make you feel more optimistic about the play. Or the inverse, lots of dry holes have been drilled recently may lead you to underestimate the play potential. What can we do to mitigate the *availability* bias? One strategy is that we could search out statistics and provide examples to support other possibilities rather than relying just on our intuition or experience.

***MITIGATING BIAS***

These biases are normal. We all have them. And in a lot of situations they are helpful and lead us to a satisfactory solution. We are not "bad people" because we have them; and in fact, they are essential to human functioning and we wouldn't be here if we didn't have them (*teaser alert: we will explore this in a later blog article*). So yes, these biases are normal and helpful in many situations; but unfortunately, they can also lead us to poor judgments and decisions.

Although a good first step, awareness alone does not alleviate their influence as shown by the line length example. Studies have shown that there is little to no correlation between intelligence and susceptibility to bias nor any specific traits that protect an individual from being biased. Rather, we must recognize these biases and when they may be negatively influencing us, and then learn techniques to mitigate their impact.

In the future we will explore other topics related to the nature of bias as well as discussing several important ones such as *anchoring, confirmation, framing, information, overconfidence*, and *motivational*. We will see how they impact us and how to mitigate their influences.

For the next post, we will discuss the *information* bias, where we have a tendency to have a distorted perception of information and its significance.

Stay safe and healthy.

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