BIAS

#6 Confirmation

UNDERSTANDING AND OVERCOMING BIAS

All the biases can negatively influence our judgments and decisions, but the *confirmation* bias has a dark side!

***WHAT IS CONFIRMATION BIAS?***

*Confirmation* bias is the tendency to search for, interpret, focus on, and remember information in a way that confirms one's belief or hypothesis.

Rather than explain, let's see how this bias can play out.

You have all seen something like this before. I have a sequence of numbers which conform to a rule that I have in mind*, for example: 1, 2, 4 and I ask you to figure out a valid next number in the sequence and then state what is the rule. With each guess, I will tell you if the number conforms to the rule or not; you can guess as many numbers as you want until you are ready to say the rule.

What normally happens is that you form a model in your mind and then test it. Say something like "the model is a repeat pattern" and then you test it by guessing the number 1 that fits your model. If that fails, you'll try another model and look for numbers that confirm to your model. However, if you test it a few times and find the numbers you guess fit the rule, you will tend to stop your testing and announce my defined rule. This is known as the "Positive Test Strategy", which can be a useful heuristic. In other words, you are looking for data to confirm your model. The problem is that we lose site that data can support more than one model, and thus tend to be lazy when we see data that fits our model and jump to the conclusion that we are right.

Why do we do this? Because it is easier to try and confirm something than it is to disprove. Try it on something you strongly believe is true by looking for data and see how you react to what you find.

In the E&P business, an example of confirmation bias was shown in my first blog article where you could purchase two wells to test your model. Another example would be the positive feeling you have when a piece of information conforms to your hypothesis.

***AND PERHAPS EVEN WORSE …..***

The dark side of this bias is the corollary … we so easily will ignore, dismiss, or underweight data that contradicts our belief or hypothesis. You see people doing this with their stock investing research by only studying the reports that lead to a 'buy' recommendation), or with political beliefs when faced with information or data that conflicts with their point of view. Unfortunately, I see this a lot in our industry. For example, an interpreter disregards a new well or seismic line which does not support a geologic model, justifying it away by saying it is old or poor-quality data.

This approach is contrary to the scientific method which involves forming a hypothesis, undertaking careful observation, testing of data, and applying a rigorous scepticism about what is observed and how it fits into your hypothesis. In other words, rather than trying to confirm your hypothesis, you should try to disprove it. If you cannot, then your model is still valid.

One way to mitigate *confirmation* bias is to write down your beliefs and justifications and then actively seek out data to disconfirm. Frame any questions in a way that encourages disconfirming answers. If you cannot find any evidence, then your model will now be more conclusive; however, with the understanding that there still can be doubt. One of the world's most successful investors over the last four decades, Warren Buffett (who owns significant positions in several major companies) invites stock analysts who suggest not buying his company's stock to his annual meetings, so that the investors experience disconfirming evidence.

P.S. The next number in my sequence would be 14 … the next number, when written in the English language, that has the letter 'o' in it!

***UNTIL NEXT TIME***

On my next blog article, I will explore an incredibly influential bias that is not a cognitive bias – the *motivational* bias!

Stay safe and healthy.

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