Cognitive Biases & Neurological Limitations – The Problem with Our Brains

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For a long time it was believed that human judgement was rational, that is, people made decisions based on the facts. What we now know is that when we face uncertainty we resort to familiar patterns of behaviour even when they are harmful to us. (Daniel Kahneman - Nobel Prize Winner for Economics 2002)

This means that we do not perceive reality as it actually is. Instead, we perceive what we expect. This is known as a cognitive blind-spot or more simply, a thinking error. We also have a limited approach to situations and problems, where we reduce them to either: Good or bad; right or wrong; mine or yours; I like it or I don't like it.

More problematic is that we tend to view situations as having only one correct alternative and this overshadows alternatives.

Further still, we all suffer from **cognitive biases** which distort our reasoning. In order to see our situations, problems and work more accurately we need firstly to be cognizant of the following biases:

1. ***Motivated errors*** - errors driven by self-interest for a particular outcome

2. ***Affect heuristic*** - where people fall in love with a recommendation. When evaluating something we like, we tend to minimise its risks and exaggerate its benefits; when assessing something we dislike we do the opposite

3. ***Groupthink*** — the tendency of groups to converge on a decision because it appears to be gathering support

4. ***Saliency bias*** - where the diagnosis of the situation is overly influenced by analogies. Many recommendations refer to a past success story but the use of just one or a few analogies almost always leads to faulty inferences

5. ***Confirmation bias*** - our tendency to seek only evidence that supports our ideas and ignore evidence that contradicts our preconceived notions

6. ***Availability bias*** or ***'what you see is all there is' assumption*** - where our brain constructs a narrative based on the evidence we have, making up for holes in it or overlooking what's missing

7. ***Anchoring bias*** - this is our tendency to make estimates and extrapolations anchored by an initial idea that may not be valid - it causes us to weigh one piece of information too heavily in making decisions

8. ***Halo effect*** – this causes us to attribute successes too simplistically, for example, basing an organisation's success on the personality of the leaders. There are usually far more complex factors at play determining success but we construct simple explanations when we should look much closer at causation

9. ***Sunk-cost fallacy*** - where the people making recommendations are overly attached to past decisions. When considering new investments, we should disregard past expenditures, but we don't

10. ***Optimistic bias*** – where the base case is overly optimistic

11. ***Disaster neglect*** – where we do not consider the 'real' worst case and how bad it might be

12. ***Loss aversion*** - where we are overly cautious or excessively conservative. This is a source of less visible but serious chronic underperformance in organisations – the wish to avoid losses can be stronger than the desire for gains

We should also be aware of the **fundamental attribution error**, also known as the correspondence bias or attribution effect, which is our tendency to place an undue emphasis on other peoples' internal characteristics to explain something that goes poorly but then to place undue emphasis on their environment or external characteristics when something goes well.

Somewhat related is the mistake we often make between correlation and cause. We think because something follows something else that it was caused by the first**. 'Post hoc ergo propter hoc'** - after this, therefore because of this. But correlation does not mean cause, in fact it rarely does. Knowing this is the heart of professional scepticism.

It is easy to see how our thinking can thwart our effectiveness - we all fill in the gaps in incomplete information and rely on over-learnt associations. These 'mental maps' structure the way we think and interpret information. These may have served us well in the past but difficulties arise when there are new problems to solve or situations that have not been encountered before, such as the BP oil spill in the Gulf of Mexico.

Today, we bombard our brains with new information but our brain's drive for efficiency leads us to take perceptual short cuts by using entrenched neural pathways. The results are real neurological limitations and thinking errors, brought on by inflexible approaches to processing information.

The costs of this are high. We rely on redundant solutions and are unable to generate creative, new or alternative ways to look at the landscape in which we work and live. Worse still, our traditional thinking approaches do not bring about the required collective intelligence necessary to solve complex novel problems or respond with the agility demanded of us.

The 'Whole Brain Thinking' model is an antidote to many of the cognitive blind-spots, biases and thinking errors that compromise our thinking. It is also a catalyst to help us be more collaborative and inclusive and to provoke diverse ideas and creative thinking - by forming new neural connections in our brains we can process information more accurately and think far more collectively and creatively. Talk to us about the Herrmann Brain Dominance Instrument and developing your organisation's Whole Brain Thinking.