

Change hurts: Myth or reality



Are we hard wired to embrace change, or to resist it? Now that neuroscience is converging with behavioural science, we have new insights into how our brain processes change and filters new information.

The increased use of neuroimaging means that 90% of what we know about the brain has only been discovered in the last five years.

How can knowledge of neuroscience improve your organisation's bottom line?
What does this now mean for change practitioners and leading others through transformation?

The human paradox

Have you ever wondered why humans resist change in some instances, yet embrace it at other times? If we wholeheartedly disliked change, would we be the most adaptable species on the planet? Why did we bother to venture out of the trees, roam the savannah, walk upright, diversify our diet, and eventually manipulate many aspects of our natural environment? Yet, we resist the introduction of a new system or structure at work?

Until recently, we have understood and planned for resistance to change in the context of social science.

The field of neuroscience (not to be confused with Neuro-Linguistic Programming [NLP]) is now shedding light onto this human paradox – not only **why** it exists, but also **when** and **how** exposure to new stimuli registers as discomfort in the brain.

A convergence of two disciplines

Whilst social science traditionally explores the human mind and behaviour, neuroscience studies the anatomy and physiology of the brain. Before we delve into the workings of our primal brain, let's take a closer look at what the field of neuroscience is revealing.

David Rock, a key researcher in this emerging field, has helped bring neuroscience and behavioural science together and coined the term “NeuroLeadership” – and subsequently founded the NeuroLeadership Institute.

Rock’s Institute defines four domains of NeuroLeadership:

1. Decision making and problem solving
2. Emotional regulation
3. Collaboration and influence
4. Change leadership

Through brain-based research and imaging technology, Rock, along with other leading neuroscientists, have compiled scientific data to complement earlier behavioural studies. Simply put, they've added a **hard edge** to what is often considered a soft science, whilst providing new insights into effective leadership and inspiring employee engagement.

David Rock went on to develop the SCARF model which we will explore later in this paper.

Hard edge with a pointy end

With technology and other global forces demanding unprecedented agility to remain competitive, neuroscience offers organisations a clear *value proposition*. As long as humans continue to work in organisations, human performance and employee engagement will be integral to business performance. With ways of scientifically monitoring human behaviour, the application of findings from neuroscience can only improve business success. An engaged workforce means less resistance so business benefits can be realised faster from transformation efforts.

For leaders and change practitioners, a better understanding of our brain function helps us improve performance at individual, team and enterprise levels to enable more successful change.. You could say neuroscience is “on the money”!

We now have a **hard edge**
for a soft science

What we now know

Neuroimaging technology, such as functional Magnetic Resonance Imaging (fMRI) means we can now observe brain activity in real time like never before. Neuroscientist, Read Montague, in his 2012 TED talk, describes this as “eavesdropping on the brain”. fMRI shows the parts of our brain that respond to thoughts, emotions and images.

Also seen in fMRIs, is the signal registered by the brain when it is exposed to unfamiliar stimuli. The perceived difference between expectation and reality takes up a great deal of neural energy as it registers an error message, which is often perceived as a threat. This means that resistance to change has a neurological basis. Because of this technology, 90% of what we know about the human brain has only been uncovered in the last five years.

In the beginning

So, while we have well and truly evolved in terms of lifestyle, technology and appearance, how much of the Stone Age has stayed with us? To understand more about our hardwired behaviour means we need to explore what we faced as our brain was adapting once we left the trees.



The amygdala hijack can reduce our IQ by 10 to 15 points!

We gossiped to survive

Gossip was critical to early human survival. Firstly, it provided useful information on what worked and what didn't, building on a growing base of oral history. It also provided a channel for strengthening social bonds, as essential activities such as hunting relied on collaboration. Today, in organisations, this organic network of informal communication means gossip is here to stay. It will flourish in times of uncertainty when employees are trying to make sense of small pieces of information they receive through both formal and informal channels. People typically gather in groups of two to four people to engage in gossip.

Emotion overrides logic

The amygdala is the emotional centre in the brain that regulates the flight, fight or freeze response. Under threat, it responds irrationally. As a survival mechanism, the amygdala acts as a ‘gateway’ to new stimulus and processes information before it is sent to the ‘rational brain’. New information triggers an error signal in our brain, which creates an emotion of fear and anxiety. You may have heard this referred to as the “amygdala hijack” – a term coined by Daniel Goleman.

When the emotion overrides logic in these instances, we hear bad news first and loudest. This is when rational people do irrational things. Whilst blood and oxygen (ie. neural energy) is taken by the amygdala, there is little left for rational thinking. According to neuroscientist, Matthew Lieberman, this hijack can reduce our IQ by 10 to 15 points! Imagine the dip in productivity when people are angry or feeling disgruntled with change.

Because emotions are contagious, a leader experiencing hijack will impact the rest of the team. Self regulation is the key here – to check on our emotions through awareness and how we frame our communication to our teams .

*Changing the
behaviour of
people is the most
important
challenge for
businesses trying
to compete in a
turbulent world.*

John Kotter, Harvard Business School

Why we hate to lose

The gambler who chases his losses. The project manager who is reluctant to shut down her program of work due to ‘sunk costs’. Our built in aversion to loss drives us to make poor decisions that defy logic. Despite how rational we are most of the time, our emotion relating to loss has primal roots. It is so strong that it overrides our opportunity to gain, and when we are not sure of something, we perceive it as loss. When we experience a sense of loss, we feel threatened. Feeling overwhelmed by threat means our ability to make decisions, solve problems and communicate is impaired.

Our response to loss is elegantly expressed in David Rock’s SCARF model of threat and reward. When one of the elements in the SCARF model is reduced or taken away, our brain activates a threat response. If an element is increased or granted to us, we activate a reward response. SCARF stands for:

S – Status
C – Certainty
A - Autonomy
R - Relatedness
F – Fairness

STATUS

We have a hard-wired social need for respect, esteem and a place in a “pecking order”. A perception of one’s status being lowered will trigger the threat response, which is similar to a primal threat to one’s safety.

CERTAINTY

We like to know what will happen next. When an unfamiliar or new situation is presented, the brain is confused and works overtime to make sense of the situation, taking up more neural energy.

We have a built in bias for loss aversion.

AUTONOMY

The opportunity to make choices or to exercise some control over one’s environment also increases the sense of certainty, therefore reducing stress. Allowing people to make autonomous decisions increases motivation and engagement whilst a leader who micro-manages will have the opposite effect.

RELATEDNESS

We need to feel safe around people in our group/s. The brain is programmed to classify a person as ‘friend’ or ‘foe’. The ‘foe’ triggers a threat response. Interestingly, social exclusion creates the same neural response as physical pain. This means social pain is like physical pain.

FAIRNESS

An experience of unfairness , even if only a perception, will result in less productivity and more negativity, registering the same brain response as a physical pain. Yet a perceived improvement in fairness activates the same neural response as receiving a monetary reward.

Here’s the catch for leaders...the threat response, ie. loss, is stronger, lasts longer and occurs faster. We default to avoid the loss or run away from the threat **before** we move towards a reward.

But there is good news! By understanding the implications of the SCARF model, leaders can motivate employees with non-financial rewards. When Mark Twain said “I can live for a month on a good compliment” he already knew that it’s not just monetary incentives that activate our reward circuitry in the brain.



Expectation shapes reality

When dealing with change, we like to anchor new information to familiar data. It is our way of dealing with confusion. Similarly, when information is missing, particularly in times of uncertainty, we will try to join the dots to create a meaningful, although not always an accurate interpretation of events. This can be summed up as “what the brain doesn’t know, it makes up”. As a result, we form mental models of our world which strongly influence the reality we see. Our mental models, like a habit, form an imprint on the synapses of our brain. We have already made up our minds on numerous things.

It is this prior experience, or mental model, that acts as a blocker to seeking other options. Think about a time someone has told you a story and halfway through, you think, “I know this”, only to find it is a different scenario. We do this frequently and unconsciously and when a new fact does not match our mental model, we reject it.

The lesson for leaders is that facts alone will not change a mindset, especially if they do not fit the current mental model. It requires more effort, such as providing safe forums to involve employees in devising a solution to help them discover their own insights; join their own dots.

Can we re-wire our brains?

Yes we can! Even though we form mental models, the field of neuroplasticity assures us that we can rewire parts of our brain. The opportunity to discover our own insights enables this. We also do this when we learn new things, and through repetition. When we ask people to change, we challenge their existing mental model and we are asking them to rewire.

Imagine our neural pathways as roads. The freeways and highways are the ones that process ongoing, frequent information and activity. New activity can create a traffic jam on that highway, and may demand a new road. Eventually, with repetitive activity, that new road is formed.

So what does this mean for leaders of change? For rewiring to take place, the brain must be engaged and open to learning. This can only occur when a threat, perceived or real, is removed. Reducing or eliminating the threat response also creates the right conditions for people to reach their own solutions; arrive at their personal moments of epiphany. Provide opportunity for moments of insight as neuroscience teaches us that it is in these “AH-HA” moments, we create new neural pathways. We learn best, and therefore rewire most effectively, when we feel comfortable and involved, and our reward emotion is activated.

To change means to “rewire” and form new neural connections.

So what does this mean for leaders?

Neuroscience reveals that change does indeed ‘hurt’ when it is experienced as a threat, making the pain associated with transformation a reality. Resistance has a neurological basis. The key messages for leaders is to minimise the threat response for optimal performance and improved employee engagement. For example, if we advise our leaders that a top-down, autocratic fact-based approach will not work, we can now explain this with a scientific basis. Specific actions need to take a collaborative approach that suits the organisational culture and will be delivered with authenticity.

Here are some tips to get started:

What we know	Message for leaders
Aversion to loss	<ul style="list-style-type: none"> • People will resist change unless they are dissatisfied with the current state • Give people a reason to want to leave the current state, focus on what will get better • Use the SCARF model as a framework to reduce the threat response, look for ways to activate the reward circuitry in the brain
Emotion before logic	<ul style="list-style-type: none"> • Appeal to emotions and reason • Use “language of leadership” techniques to appeal to the hearts and minds • Be clear and transparent about why and how decisions will be made to help people see the fairness in the approach • Be aware people hear ‘bad news’ first as a default • Understand and acknowledge “survivor guilt” if change involves org restructure • The threat response is more intense and frequent than the reward response and minimising the threat response is likely to require more effort • If people feel they have been treated fairly, you will activate the same reward centre as eating chocolate!
Gossip is a survival tactic	<ul style="list-style-type: none"> • Accept that rumours will continue, over-communicating is unlikely to eradicate them • Find out what the rumours are to stay abreast of conversations, if your organisation hosts social networking such as Yammer, join the online community • Provide a face-to-face forum for myth-busting, discussion and FAQs • Following formal face-to-face communication, allow time for smaller groups to gather to engage in natural “gossip”. Have leaders and change champions circulate to tap into this grapevine. • If you cannot communicate detail, advise them when details will be confirmed to provide anchor points
Expectation shapes reality	<ul style="list-style-type: none"> • People’s expectations play a bigger role in human perception than previously understood – demonstrated by the placebo effect. Set and communicate clear expectations. • People will feel what they expect to experience • Behaviour change required a change in mental models • Repeat key messages and be explicit and honest. People can see through the “spin” • New connections can be formed by repeated activity and episodes of insight – involve employees in forums to enable the “AH-HA” moment
We can rewire our brain	<ul style="list-style-type: none"> • Provide opportunity for repeats of desired activity, eg, set up a “sandpit” training environment • Give regular positive feedback. Even automated feedback, such as a computer saying “good job” lights up the reward area of the brain

Thinking about it is only the beginning! New insights challenge our existing practices and encourage us to look at things with a fresh perspective. What we now know about our built in biases and our hardwired responses to threat (change and potential change) means it’s time to review leadership practices, especially change leadership, along with our change strategies and interventions. At this same time, it provokes thought around how communication and messages are framed, and the effort required, to reduce the “pain” we experience when introduced to change.

The information now available complements existing change management practice to help us become even better at what do!

Other applications – the science of decision making

Neuroscience is used to understand how consumers decide to purchase a particular brand, paving way for the new field of **neuromarketing**.

fMRIs measure brain activity in response to stimuli such as a brand, imagery and taste, to find out more about the part of the brain that decides. Considering that a high percentage of new products fail in their first year, the field of neuromarketing, with use of this imaging technology, will now take market research in a new direction.

Organisations such as Google and Frito-Lay are using this technology for market research into consumer preferences on their products.

Expectation and perception shapes our reality.

Parting words

When we can observe and measure neural activity in response to specific actions and behaviours, we can confidently re-position the “soft science” of change management as a hard one.

Poor decisions cost money. Aversion to loss can mean a decision to persist with a flawed project, resulting in chasing a sunk cost. Failing to collaborate effectively can mean duplication of work effort. Poor emotional regulation may result in a contagion of negativity and anger. Top down autocratic communication can cause passive resistance as people tenaciously hold on to their mental models. These are only some behaviours that occur when employees experience the threat response that comes at a cost to the organisation.

For a long time, organisations have understood the hidden costs of low productivity and a disengaged workforce. Neuroscience can now help us see when and how this occurs in the brain, pointing to additional tools and techniques to optimise human performance.

In an increasingly cost-driven competitive environment can we afford **not** to adopt the principles behind our hard science?

Neuromarketing case in point – Camp Coke or Camp Pepsi?

Many cola drinkers will emphatically tell you that their brand preference is based on taste alone. Yet the two drinks, Coke and Pepsi, are almost identical in chemical composition. American neuroscientist, Read Montague, along with his research team decided to find out more about the science behind this brand decision.

They commenced the experiment with a blind taste test which revealed that preferences didn't always match their brand of choice. Some Pepsi diehards preferred Coke and some Coke fans chose Pepsi. The conclusion here is that taste alone does not always drive preference.

In the next round of tests, they tasted from cups correctly labelled with either “Coke” or “Pepsi”, along with tastings from unlabelled cups with the identical liquid but were **told** it was Coke or Pepsi. Interestingly, when drinking the same liquid, they showed a stronger preference for the drink they were **told** was Coke. This shows that the Coke brand has a stronger impact on perception, and yet in the mind of the consumer, the preference is based on taste.

But, wait there's more! A concluding round of tests revealed further findings. When drinking the cola through a straw, and exposed to a brief image of either the Coke or Pepsi brand, the brain images registered a stronger reaction to the Coke brand, suggesting Coke's years of advertising has been successful in creating an emotional response. Knowledge of the brand alone resulted in a bias, further confirming how our expectation shapes our reality.



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The real voyage of discovery
consists not in
seeking new landscapes,
but having new eyes.

Marcel Proust



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