eBook

Neuroscience in the workplace

How understanding the brain can transform your business

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Introduction

Imagine that you are a manager discussing quarterly earnings in a meeting. Outside of your awareness, your brain stem makes sure your heart beats and you are able to breathe. Your limbic system is taking in all the outside information about heat, light, people, sounds, and funneling it through a complex network to help you interpret it and react to it emotionally. Your cortex is allowing you to speak fluently and coherently, to plan for what you are going to say next, to focus your thoughts, to calm you nerves, and to respond to questions. Most of that is going on beyond awareness.

All of a sudden, if there is a loud bang, your brain automatically processes the sound, where it came from, and if it is a threat. Your heartrate might increase. Your breathing may stop for a second. You will look toward the source of the sound and a split second of fear or shock may be all that you can think about. In the moments after, your cortex may start to take control and you may realize that it was an employee banging their fist on the table. You would then need to process how to respond (in emotions, in tone, in posture, in words).

All this happens in parallel and in less than seconds. If you can understand the process of your own brain and how

sensory information, emotions, and thoughts impact you and your behaviors, you can begin to realize how it may impact the brains of others. This increased awareness of the brain and how it functions can give you an advantage in being a better leader and creating a better workplace.

As a team manager or an HR manager, the human brain is a key stakeholder in every activity and every decision you make. Understanding the way it works can make a huge difference in attracting the right talent, retaining high-performing employees and fostering collaborative teams that function well together to deliver company objectives.

The Role Of Neuroscience in Business

More and more, the word neuroscience pops up in various aspects of life. Knowledge of the brain has entered the mainstream, everywhere from education to business, and even to pop culture. The Disney-Pixar movie Inside Out is just one example of how ordinary talking about the brain has become. It seems like everyone knows something about neuroscience these days.

Keeping up with the new trends in employee engagement and leadership now

requires a basic understanding of the brain and neuroscience.

What is Neuroscience?

To put it simply, neuroscience is the study of the nervous system. This includes the brain, spinal cord, and all the nerves throughout the body. Neuroscience is not just about the biology of these structures, but also includes the psychology of the brain as well as the interactions between the nervous system and other body systems. Over the years, scientists have gained more knowledge about both the molecular structures of the brain and

nervous system, and about the behaviors that result from them.

There are many branches of study within neuroscience that have influenced the sciences and sometimes even everyday life. Here's a quick overview:

Neurology – disorders of the nervous system and how to diagnose and treat them.

Neurobiology – the structure and function of the nerves and brain.

Neurochemistry – the cellular chemical processes that occur in order for nerves to function.

Neurophysiology – how the nervous system responds to the external world.

Neuropsychology – the interplay between psychological processes and brain function.
Neuropsychotherapy – the use of neuroscience to treat psychological problems.
Cognitive Neuroscience – how the brain and nervous system create cognition.
Social Neuroscience – how the brain and nervous system create social behaviors.

The above list is not exhaustive, but it is a quick introduction into how extensive neuroscience research is and how many fields it impacts.

In terms of business, much of what is written is written about the brain. We will

look at an overview of brain structures and functions, in order to get a better understanding of why and how people act the way they do.

If we can understand the brain, we can have a better understanding of the behaviors of the people we work with, as well as discover ways of making the workplace a better place to be.

Understanding The Brain

The brain is a complex set of over 86 billion neurons, all communicating to create all our thoughts, behaviors, and functions. In order to try to organize the brain, scientists have divided it into three main sections: the

brain stem, the limbic system, and the cerebral cortex.

The Brain Stem

The Brain Stem is located at the base of the brain, or at the top of the spinal cord. It is often called the reptilian brain as it is the oldest part of the brain, in an evolutionary sense. This part of the brain regulates signals coming from the spine is critical for breathing, heartbeat, sleeping, eating, and other necessary aspects of life. The cerebellum is located behind the brain stem and is important for timing and coordination of movements.

The Limbic System

The limbic system is the next “layer” up, sitting on the brain stem, and is sometimes called the mammalian brain. Evolutionarily speaking, this part of the brain came into existence around the time of mammals. The limbic system is important as the emotional center of the brain. There are many other complex functions and structures in the limbic system, but we will touch on only a few of them.

Thalamus – This structure receives sensory information and sends it to other parts of the brain to be processed.

Hypothalamus – A link to the endocrine system, this structure controls the feelings of hunger, thirst, fatigue, and temperature.

Amygdala – This structure helps in the processing of emotions, most notably fear. It also plays an important role in memory formation about pain and body reactions to the environment.

Hippocampus – Often thought of as the memory center of the brain, this structure stores some memories, but mostly helps memories to be formed and stored throughout the brain.

Cingulate cortex – Sitting on top of and linked closely with the limbic system, this

area of the brain is important for attention and awareness of the environment.

Nucleus accumbens – A series of structures sometimes considered to the reward center. It has an important role in dopamine and oxytocin. Dopamine helps reinforce rewarding behaviors while oxytocin helps to reinforce bonding and trust-based behaviors. Habit formation and learning patterns are also processed here.

The Cerebral Cortex

The cerebral cortex is the third and outermost “layer” of the brain. Many mammals have this part of the brain, especially larger mammals like dolphins, large apes, and elephants, but the

complexity of the human cerebral cortex is often the basis of what distinguishes us from other mammals.

The cerebral cortex is divided into four lobes: occipital, temporal, parietal, and frontal.

Occipital – At the lower back part of the brain, this lobe is responsible for much of the visual processing that occurs.

Temporal – On both sides of the brain, these lobes help us with abstract thinking, metaphors, and language.

Parietal – Spanning a large area at the top of the brain, this lobe is important for processing sensory details and coordinated and planned movements.

Frontal – At the front of the brain, this is lobe that is sometimes credited with making us uniquely human, as it controls executive functioning and emotional regulation.

This all may sound a bit too abstract and you may be thinking what this has to do with business and leadership, but this is the core base of everything we do as humans, employees, and leaders.

Our Brain on Hormones

Hormones affect us every second of our lives. Our emotional and physical health is dictated by how these hormones interact with the cells in our bodies and our

brain. Neuroscience has been able to show us the exact ways in which hormones impact us and the processes behind them. In the business sense, hormones and neuroscience can advise you on how to be a better leader.

Most people think of effective business leaders as confident, resilient, strong, caring, and capable. Those aspects, which many people think of as innate qualities or aspects of personality, may be explained by hormones.

Social neuroendocrinology is a field of study in neuroscience, focused on how hormones impact social behaviors. Research done in this field has shown that

there might be an optimal mix of hormone levels that can prime someone for great leadership. The two keys hormones? Cortisol and testosterone.

The Hormones

Cortisol

Often called the stress hormone, cortisol is produced by the adrenal glands in response to stress or low blood sugar. Once released, it leads to higher blood sugar, suppressed immune system, changes in memory formation, and disrupted sleep. Cortisol is crucial to our survival as it helps us respond to stressors and threats. But

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too much cortisol can lead to mental health problems such as depression, anxiety, but also heart disease, and problems related to all the major body systems.

Testosterone

Both men and women produce testosterone, although women produce it a much lower amounts. While it is often associated with male development and functioning, it has many uses in the body. Testosterone has been shown to have effects on aggression, dominance, confidence, competition, concentration, mood, sleep, and energy.

In a 2016 study published in The Journal of Personality and Social Psychology,

researchers investigated the hormone levels of executives. What they found was that the executives with the most responsibility as leaders had the highest levels of testosterone. But, those executives also had low levels of cortisol. As levels of cortisol increased, the level of leadership decreased. So, while all executives with more responsibility had higher testosterone, the leaders who were able to manage their stress levels, lowering their cortisol, were the ones with the most responsibility. This effect is true regardless of gender.

In a similar study by the same principal investigator, leaders were tested for their levels of empathic accuracy. This skill

allows people to accurately guess the emotional states of others. Researchers discovered that leaders with more responsibility often had lower empathic accuracy; they found it difficult to determine the emotions of others. Those leaders were also more accepting of unequal power between groups.

Using Neuroscience In Talent Management

The Brain is Plastic

At one time, it was thought that once a person reached a certain age, the brain stopped developing and could not be

changed. This has since been proven untrue. It may be more difficult to change some aspects of the brain after a certain time, but the brain still has a lot of plasticity throughout a person's lifespan.

The brain continues to reform and rewire itself based on how much or how little the pathways are used. That means that we can always learn new things.

The pathways are created through the connections of neurons. Each neuron has on average about 1,000 "arms" called dendrites that connect it to other neurons. The connection between the cells is called a synapse and occurs over a small gap called a synaptic cleft.

The way neurons share information is through sending and receiving neurotransmitters across the small gap. The neurotransmitters trigger a chemical process, which creates an electrical charge that travels through the neuron. This process of electrical charge, neurotransmitters, electrical charge, and so on is what creates the pathway of neurons. There is a saying “Cells that fire together, wire together.” That means that when learning a new task or about a new person, the best way to learn it is to do it multiple times, so that the neurons “fire together” and eventually “wire together”.

So what does this mean for talent management and the world of work? Well,

for one thing, it means that learning and development should be a key HR objective. Second, it tells us that it is never too late for a

leader or an employee to learn a new skill or a new way of doing things. Change is hard sometimes, but research tells us it is possible.

Our Brains Like Rewards

Emotions are an important aspect of how the brain changes and how we learn. Positive feelings activated through the reward system of the brain enhance the pathways and improve learning. The reward system is very complex and has

pathways in many areas of the brain, but often it is regulated by the neurotransmitter dopamine.

These pathways and the positive feelings associated with them have been studied using illegal drugs that increase dopamine. In other studies, researchers have found that dopamine also has a role in attention and motivation.

There are two main reward systems in the brain that are related to attention and motivation: primary and secondary.

Primary rewards are related to primary needs like food, water, and shelter. We feel good when we have those needs met. Secondary rewards help our survival but are not vital to it. They include things like information, power, trust, touch, appreciation, and community.

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Based on neuroscience, there are some rewards that seem to release more dopamine than others.

For leaders, rewards are often an effective way to motivate employees.

Based on neuroscience, there are some rewards that seem to release more dopamine than others. You will see that money, or material goods, are not on the list.

Many of the rewards are related to social interaction in some way. For example, when employees are recognized by the executives of the company, the impact is great. So great, that “nearly one-third of employees would rather be recognized for their work accomplishments in a company-wide email from a company executive than receive a $500 bonus that isn’t openly

publicized by a superior to their coworkers.”

Following the science, leaders can review their system of motivation and rewards to consider ideas that are proven to be rewarding to the brain. While each employee is different, there are many categories or rewards that would be useful to implement in order to truly activate an employee’s reward pathway. More dopamine means employees who are happier, more focused, and more motivated.

The Power of Mirror Neurons

In the early 1990s scientists discovered mirror neurons. They found that when one person watches another do some kind of action, the neurons of the first person fire as if they were actually doing it.

There is a common example that has to do with yawning. Research has shown that yawning can be contagious. Why? Mirror neurons. When one person yawns and another observes, the neuronal pathways for yawning in the observer's brain are activated, causing them to yawn too.

While this may explain why a yawn can seem to travel around an office, mirror neurons are really important for learning,

emotional awareness, and empathy. When we watch someone do something, our brain is actually learning how to do it. When we see someone experiencing an emotion, our brain processes that emotion as well, increasing empathy.

Mirror neurons can be important aspects of people management as we can see how our emotional and physical states as leaders are actually teaching our employees how to act and how to respond emotionally to us. When mirroring is connected to a certain need and when it is understood from a familiar viewpoint, the effect is stronger. Mirror neurons, again, prove how much humans are social animals. People are highly connected to

the people and the environments around them.

Because of this connection, companies can create environments where people can mirror others who create collaborative and cooperative learning and working atmospheres. Individuals are important to the team and the team is important to the individuals through the power or mirror neurons.

Emotions are Everything

Many people want to believe that they can make decisions based exclusively on free will and their rational minds. That is not often backed by science, as research has

shown that there are many unconscious processes that influence and dictate why we behave in the ways we do.

Those processes follow brain pathways that were put into place when we were very young. In most cases we have already made a decision before we have actually thought about it. This happens in the limbic system. Our cerebral cortex then has to rationalize the decision through language and planning, leading to, what some may call, the illusion of free will. That is not to say that the cerebral cortex cannot influence the limbic system. This can be seen in people who practice meditation and mindfulness.

As a manager, it is particularly useful to know that when we are faced with stress or a threat, the executive functions of the brain shut down, leaving the unconscious processes of the limbic system in charge of decision making. These parts of the brain react on emotion and survival instincts.

Leaders also need to be aware that in terms of learning and team building, change happens not from the cerebral context but from the limbic system. With effective company rewards and interventions, the slow process of changing the limbic system can start to take place.

The Basis of Leadership Is Born in the Brain

The new way to lead

The brain is a social organ. That means that we are all born to connect. We cannot expect the best results if we see people as impersonal machines and employment as a place full of isolated tasks.

Team leaders and department managers who understand neuroscience know the importance of:

- How the physical environment impacts productivity;

- Who we spend time with at work and the strength of relationships;
- The interplay between thoughts and emotions and;
- How different types of tasks impact the brain and productivity.

More effective leadership requires understanding emotions, using empathy, and building relationships. This type of social leadership can create higher confidence, improved relationships between employees, and increased productivity.

Resonant leadership

A recent study done at Case Western Reserve University found a relationship between resonance and effective leadership.

Being resonant means that a leader is empathetic and has a high emotional intelligence level. A dissonant style, on the other hand, is more authoritarian and objective.

Using fMRI scans, researchers asked managers to think about experiences when a leader was resonant or dissonant. 14 regions of the brain responded when thinking of resonant leaders, while only six responded when thinking of dissonant

leaders. In fact, 11 regions were deactivated when thinking of dissonant leaders.

What this means is that resonant leaders activate attention, social awareness, and positive relationships in their employees, while dissonant leaders trigger negative emotions, disregard, limited attention, and decreased social awareness.

Resonant leadership styles also help build trust through the release of oxytocin in their brains and the brains of others.

The pathways to leadership

When investigating the complex processes involved with leadership, many researchers

study coherence. Coherence measures the coordinated activity of different areas of the brain in order to determine where there are connections.

Studies have focused on the frontal cortex due to its role in emotional regulation and executive functioning, like goal-directed behavior.

More specifically, the right frontal

The right frontal area of the brain is important to interpersonal communication and relationships. Coherence in this part of the brain is essential for social skills, emotional control, and self-awareness.

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One study in particular focused on vision statements, an aspect of leadership based on social emotional functioning in the right frontal area of the brain. During a qEEG assessment, which uses sensors to capture electrical activity in the brain, executives answered questions about their plans for the company and the future. They were also asked to create a vision statement.

Coders analyzed the statements and scored them based on how much they focused on the self or on the team. They found that leaders who used more social language (we and us) in their vision statements were more likely to have higher coherence in the right frontal part of the brain than leaders with more self-language (I and me).

Leaders who used more social language were also perceived by employees as being more inspirational and charismatic in their leadership styles.

In effect, employees viewed leaders who had more right frontal coherence as being

more resonant leaders due to the amount of social language they used.

Research is ongoing, but there is some evidence that effective leaderships starts in the brain. We now know of some areas of the brain that can influence resonant leadership, but the question becomes how we use the information.

The brain is plastic but it can be difficult to know what to do to influence certain pathways or areas of the brain. There is growing evidence that neurofeedback may be a way to do just that.

The art of neurofeedback

Neurofeedback uses qEEG and a visual game-like component to activate a certain part of the brain. The game uses electrical readings from the qEEG to control an aspect of the game. If the correct area of the brain is activated, the game responds and the user is rewarded. If the incorrect area of the brain is activated, the game does not respond or there is some kind of penalty.

Due to the plastic nature of the brain, after many sessions of neurofeedback, the brain begins to create new pathways that become automatic. This creates new habits and behaviors.

There is the potential for neurofeedback to give managers and HR professionals some help in forming new patterns and trying to be better leaders. For example, researchers from the study mentioned above asked a manager to participate in neurofeedback after they mentioned having anger management problems. With knowledge of what areas in the brain are useful in anger management, the neurofeedback therapist was able to help the manager activate the parts of the brain helpful in emotional regulation.

After many sessions, he was able to reorganize his brain to create stronger pathways in the areas of his brain known to support emotional regulation.

Neurofeedback has also helped people improve their focus and react better to stress.

This may sound like science fiction. A computer alters the brain and the person is different, but that is not true. Neurofeedback cannot make someone a better leader. Its purpose is to help reorganize the brain to give someone the potential to be a better leader. It can make the brain more efficient and make it easier for us to behave in certain ways, if we choose to do so.

With continued research, maybe more aspects of leadership will be found to have pathways in certain areas of the brain.

Leadership training could become a personal brain-based approach, helping people find their struggles and unlock their potentials.

While there is still a lot that is not known about the brain and how it can make us better leaders, the evidence continues to show that the basis of effective leadership is in the brain. Neuroscience can help us all be better leaders.

How To Improve Employee Engagement Using Neuroscience

Employee engagement can be a constant struggle for many leaders. They need to be thinking of new ways to keep employees engaged in order to increase job satisfaction, productivity, and retention. One of the growing factors in employee engagement is neuroscience.

Neuroscience, the study of the nervous system, can inform leaders about processes involved with their own leadership, but also about the minds of their employees. Curious to know how you

can improve employee engagement using neuroscience?

Because the brain is plastic, it is always adjusting and adapting based on the environment. When you create supportive and collaborative environments, the brains of employees can process the information easier, leading to more effective change. But if the brains of employees perceive things as threats, comfort, motivation, and satisfaction decrease.

By knowing more about the brain, you can learn to limit threats. Often, those threats can come from the normal business practices of assessment, feedback, and evaluation. Because of the lasting negative

impacts threats have on our brains, you also have to learn to decrease the amount of threats in the workplace, in order improve employee engagement and motivation.

The SCARF Model++

Dr. David Rock is a neuroscientist who has created a model for improving the relationship between leaders and employees. He calls this model SCARF. This model stems from research that states the brain is always trying to minimize threats and maximize rewards. Moreover, social experiences follow the same reward

and threat pathways in the brain that other primary needs follow.

Imagine one of our ancient ancestors coming across a1 new creature, plant, or water source. The brain would interpret the unknown thing as threating or safe and react accordingly. While modern humans are often not in that same position, social experiences follow the same pathways. Dr. Rock uses the SCARF acronym to explain these social forces.

S – Status

C – Certainty

A – Autonomy

R – Relatedness

F – Fairness

Status

When people feel uncertain of their social position or feel they are being evaluated, the brain interprets that environment as a threat. This threat is treated the same as a physical threat. In order to be safe, the brain has mechanisms that help us fight or run from the threat. In the case of social threats, sometimes those may not be an option, but our brains stay on high alert, making it difficult to focus on other things until the threat is gone.

As a leader, you can work to create an environment where you are not perceived

as a threat. Start by allowing employees to evaluate themselves and gain insights into their behaviors. Encourage change to come from the employee instead of the leader. This way, you can decrease the threat level but also improve the engagement the employee has with company and their personal growth.

Certainty

The brain has developed to be aware of threats. Some people are more sensitive to threats than others, but everyone is able to recognize threats to some degree. The unknown can often be worse than being able to see the threat. Not knowing what will happen next increases the awareness

of threats and puts the brain on high alert, making a person feel less safe and less focused on tasks.

Offer more certainty by working to increase communication with staff. Be clear in your communication and state expectations, goals, and other information that makes it evident that the you are confident and relaxed. When employees feel safe and certain in their jobs and the organization, they will be more engaged in their work.

Autonomy

Usually with any kind of change comes a choice. We have to think about when we react and how we react. Without this choice, the change (or threat) becomes

even more powerful and overwhelming. It can stop us from being able to move forward and leave us unmotivated and feeling hopeless.

Make employees aware that they have choices and that they have some control over their jobs. As a direct manager, try to limit how much you interfere in an employee's daily tasks. Your team members should be trusted to do their work without anyone constantly checking on them. This is a perfect example of how you can improve employee engagement using neuroscience.

Relatedness

People relate to one another in different ways, but often they view others as trustworthy and friendly if they feel the other person seems similar to them in some way. Often people have ways that protect them from the threat of someone new or different. These defenses can block out the things that others say or do when they are not perceived as a member of the group.

Relationship building is a vital part of a productive team. Look for ways to connect to employees and for employees to connect with each other. When everyone in a work environment is viewed as friendly,

then the brain's threat alert system is quieter, allowing people to feel more in sync with the team and with their work.

Fairness

Our brains can be very sensitive to fairness and we are usually aware of and react strongly to situations that we feel are unfair. These threats and the reactions to them can often be emotionally charged, possibly leading to anger and resentment.

To improve a sense of fairness, try to be conscious of how you interact with all employees. Don't show any sign of favoritism or special treatment.
Be transparent in all decision making processes. When fairness is at stake,

address the issue at hand immediately so that there can be some understanding of why things happen.

The SCARF model uses a very basic aspect of human existence, threat and safety. We may not think about these two things on a minute to minute basis, but our brains are always reacting in ways that relate to the pathways that were created in our ancestral pasts.

As leaders or employees, we can probably all think of ways in which something we were effected by could have been looked at as our brains raising the threat alarm. With this in mind, we can learn to be more engaged leaders and employees on a brain-based level.

The 7 C's of Change Management: Making Change Easier With Neuroscience

Change is rarely easy, especially when a habit has been formed. Just think about how difficult, stressful, and even annoying it can be when someone asks to change

your morning routine or you are forced to change it. That is just one person.

So imagine the challenges of trying to implement a change management process in an organization, where all people have different responses to change and ways of coping with it.

The perils of change

Unfortunately, change at many organizations does not go as planned. Some attempts may even end in failure.

In a recent change management survey conducted by Towers Watson, researchers found that while 55% of employers felt that change was initially

successful, only 25% felt that the changes were long lasting.

In other studies it was found that 83% of CEOs believe change is their biggest challenge, while 28% of CEOs were fired because of ineffective change management.

Often, change fails because of four main reasons:

- Ineffective leadership;
- Lack of communication;
- Poor employee involvement;
- Lengthy timeline for change.

We would also add to that list of reasons one that probably has implications for all of them: Neuroscience.

The automatic nature of the brain

The brain has evolved to create pathways in the brain that respond to and activate habits. Due to these automatic pathways, there can be some resistance to change. When faced with something new our brains immediately compare it with things we are familiar with.

In general, it takes much more time and energy to try something new than it does to do something habitual. In an effort to save energy, our brains will usually default to a thing that is most automatic, the habit.

For example, if you have learned how to ride a bike as a child, it is probably almost second nature to you as an adult. Even if

you do not ride a bike for years, you would be able to get back on a bike and ride with few, if any, issues.

About a year ago, a YouTuber named Destin decided to try to ride a bike that had the controls reversed. When the handle bars were moved in one direction, the wheels moved in the opposite direction. While this seems like a pretty simple adjustment, the bike riding pathway in the brain is so engrained and automatic that it took him 8 months to retrain his brain to ride a bike.

If it took 8 months of riding every day to change the pathways in the brain related to riding a bike, just imagine what it would

take to change the habits of all the people in an organization.

The brain on fear

Not only is change difficult due to pathways in the brain, but also because the brain often interprets change as a threat. This perception can activate fear and anxiety, along with the fight or flight response. The fight or flight response causes us to flee from the threat or fight against it. In the case of change, the response and the negative emotions that our brains trigger often limit our openness to new ideas and hinder our decision making skills.

These responses are often unconscious, beyond our awareness. Our amygdala and limbic system take control, limiting the oversight of our prefrontal cortex. We may resist change without even realizing why. It is important for leaders to present a potential change without urgency or threats in order for people to be able to accept it.

The stages of change

While the brain processes the information about change and whether or not it is a threat, people often go through four stages of change.

Denial

Employees may deny that a change needs to take place and may try to prove that the old way of doing things is better.

Anger

In this stage employees start to complain about the changes and blame others.

Exploration

After realizing change is inevitable, employees may try to offer their own solutions or think of a better result for themselves or their team.

Acceptance

After some struggle, employees will accept the change and participate in the change process.

Change begins with a C

When looking at change through a neuroscience lens it is important to consider how habits form and how our brains react when habits change.

Clarity

When going through the change process everything needs to be made clear. To reduce status threat, the roles of managers and leaders need to be made clear.

Goals for change also need to be clear. Vague goals can add to the already existing anxiety, as an employee many not know when they have reached the goal or how they will be evaluated on their progress. This means goals need to be specific and measurable.

Instead of saying: “Be more productive.”

Try: “Write four reports during the next quarter.”

Or: “Enroll 10 employees in a weekly Employee Assistance Program this month.”

Companies that review goals often and have employees write down their goals are about three times more likely to be.

Both the company's goals and an employee's personal goals can be made public so that everyone can be held accountable.

Continuity

For effective learning, and change, this process needs to be continuous. That means that change does not stop when it is put in place. Companies need to plan for the next change and get feedback about the previous change.

The brain often needs time to process new information as much of it is forgotten soon after it is received. If the information is reviewed a couple days after, retention is much higher. Trainings, when a new

change is being instituted, need to be spread out and evaluated on a continuous basis in order to maximize their benefits.

Certainty

Leaders need to express certainty that change will occur and certainty that the company will continue to succeed. Information about these facts should be shared with employees as often as possible to reassure them that their jobs are safe. This feeling of safety and assurance will lower the threat alarm in the brain. Communication and the feeling of safety will keep employees engaged throughout the change process, increasing its chance of success.

Consistency

Like in the bike example above, change requires consistency. There are some theories that it takes one month to form a new habit, but there is no research that states that.

What the _ is that change comes easier when it is done consistently and in small doses. A leader may want to make big changes in the company, but if they try to go for the end goal at first, the change may be too complex.

Leaders need to make changes that are so small that they are easy to accomplish and become habits fairly quickly.

If leaders want to institute a change where employees have to interact and post content in an online forum at least three times a day, it may be unreasonable to expect all employees to make the change by stating it in that way.

To break the task down into smaller pieces, have employees log in once a day, then read a post once a day, then create a post once a day, and so on until the end goal is reached.

Cooperation

Because the brain is a social organ, people can find comfort in their relationships with others. Leaders can provide extra opportunities for employees to nurture

teams and groups formed at work. Leaders can also work with employees to involve them in the change. Employees are much more likely to adapt if they feel they are part of the decision making process.

Confidence

Many people may feel out of control when the company is changing. They may feel helpless. This feeling can cause increases in anxiety and depression. To counteract these feelings, leaders need to instill confidence in their employees. They need to show them that they are still in control and have choices to make.

Communication

Communication is key when it comes to change. Employees want to feel that they have a voice and that it is being heard. Allow employees to complain, share opinions, and be a part of the change as much as possible for it to be successful. Leaders need to show empathy during a stressful time and connect to employees on an emotional level.

This communication can be in the form of surveys, feedback sessions, or individual reviews.

Change may not be easy, and it may take some time, but successful, long lasting change needs to be done with the brain in

mind. And most times, the brain does not work as quickly as we want it to.

Start Using Neuroscience in Your Workplace

As all this information and research data sinks in, two questions form in the mind of every manager or HR professional, and they are: How does this translate into my everyday activity and how can I use neuroscience in a practical way? Here are some starting points:

Turn the business into a story

Stories help us connect with other people. We come up with a way to share our experiences with others. When the brain is activated by a story through emotion, oxytocin is released. This neurotransmitter helps to form connections in the brain that help us build trust and bonding. The release of oxytocin through emotional stories also help us empathize with others. These stories can help teams connect and help employees connect with the company mission.

Leaders can use analogies, metaphors, or even classic themes in literature like the hero's journey to illustrate how the

company has evolved, overcome challenges, and become what it is today.

Dan Gilbert, the founder of Quicken Loans, has a unique way of doing this. He has created a company culture that is based on engagement. He shares the story of the company through a book, that he wrote and updates yearly, that explains the company's values, principles, and expectations. He communicates this story by personally leading orientation sessions for all employees.

Get them to tell their own story

Employees can also have stories about themselves and their work performance.

Help them build a better connection with the company by having them tell their story of where they fit in and what motivates them.

In response to the importance of stories from the company, employees often offer stories of their own. Many employees personally write to Dan, telling him how a job at Quicken Loans has changed their lives and what it is about the company that has impacted them so significantly.

While no employee is perfect, it is important to help the employee create an overall positive story about their work performance. This starts with avoiding blaming and shaming language. It also

includes sharing positive statements along with negatives.

Research has found that, for optimal performance, it is important to balance every criticism with around 5 positives.

Keep it comfortable

Most of us have probably had the experience of something in our environment either helping us focus or distracting us from something we were doing. It is important to create a workspace that allows people to focus. Different strategies for improving the space may include cleaning up office clutter, reducing crowding by increasing the space between

workstations, providing private spaces for more complex tasks, making comfortable seating and ergonomic office products available, and helping people organize their physical spaces as well as their virtual and electronic spaces.

A mind that is made more relaxed by a comfortable, safe, and structured work environment is a more productive mind.

Make it fun

When trying to change employee behavior or teach them new skills, fun is an important aspect of the equation. Using games and experiential learning can activate emotions and thoughts. This type

of learning can create multiple pathways and increase connections in the brain as it activates the body, the limbic system, and the information processing aspects of the brain. Activating multiple pathways helps people focus and retain information better.

Companies like Zappos and Google are known for how fun they try to make work and how much they encourage friendships. Overall, they are trying to improve engagement and company culture using the social brain. Learning and change management can also use relationship, fun, and the social brain to improve results. Leaders can facilitate this by:

- Creating hypothetical work situations
- Roleplaying different scenarios
- Using fun videos, songs, or movie clips
- Finding hands-on exercise that reinforce skills
- Playing games to review learned information
- Using kits like Choosing Happiness @ Work

Stay structured

In order to ward off the threat signals in the brain, leaders need to be consistent in how they behave and how they create the office

environment. Leaders should apply all rules and expectations equally, exhibit coping, and treat employees fairly. They should prepare employees for changes in the company and the physical work environment and provide them with strategies to adapt to the changes.

The brain is less likely to stay on high alert when the environment is predictable and safe.

As shown in the 2016 Employee Job Satisfaction and Engagement Report by The Society for Human Resource Management, respect, trust, and relationship are some of the top factors influencing job satisfaction.

The same report shows that feelings of security, safety, and stability are very important factors when looking to create satisfied employees.

Structure come from the physical environment, the company culture, and the leaders that express and control both.

When all three are valued, satisfaction and engagement improve.

Let them speak

Some leaders may be cautious to let their employees speak freely about the company, but employees are probably already talking.

Providing them with an open forum where they can raise issues will help improve emotional intelligence, empower them, and provide opportunities to talk about conflict resolution and coping. Employers can create this type of atmosphere by encouraging some simple, yet effective, practices.

- Create an open door policy where employees can address any concerns with leaders
- Hold discussion sessions where employees can come together to talk about issues
- Create a suggestion box or online surveys

- Offer lunch times with management
- Acknowledge and reward open discussion and change through larger forums or communication platforms

Encourage healthy eating and behaviors

Companies can help promote brain health by helping employees have better overall health.

Providing healthy snacks, having seminars about health topics, providing gym memberships, and offering smoking cessation programs are all ways to help

employees have better physical, mental, and brain health.

Get moving

Many companies are now including exercise in their daily routines. This can be as simple as having a walking meeting or providing employees with standing desks or fitness ball seats. Employees in many companies feel more effective when given the opportunity to take breaks and get some free time to get up and move.

In the early 2010s the Welsh Ambulance Service began focusing on using neuroscience to improve company practices.

Their motivation is based on movement: “The neuroscience says if you do some exercise, if you don’t just sit still in your meetings and in your work life, it will really help you be more effective.”

They now actively encourage people to move around during meetings and work sessions. They want people to get better results, so they say: *“Look, if you’re getting the same results it’s not working for you, move and try a different seat.”*

Create shared experiences

Bringing people together in both teams and as an entire organization promotes bonding and wholeness within the organization.

Having a shared experience gives people a sense of belonging to the group. The social brain is activated, oxytocin is released, and employees feel like a part of the group and the group's mission. Ultimately, they feel more motivated and engaged.

Being able to relate and feeling understood are vital to feeling part of the group. Shared experiences do not have to be major events. Often people can feel connected even through the mundane.

- Some companies schedule outings to a movie, a park, or a sporting event.
- Some provide game rooms or special luncheons to encourage comradery.

- Some create small celebrations to bring people together.

Hoopla TV finds that as companies grow and expand it is more difficult to meet face-to-face. They use technology to create a shared space in which employers and employees can interact by sending images, videos, news, opportunities, celebrations, and other updates.

Have time for reflection

When teaching employees new skills or giving them tasks, build time in for reflection. The brain handles work and information best when it is in short bursts.

For improved retention of knowledge or work

performance it is important to give the brain a break from technology or other distractions to allow the pathways in the brain to be reinforced through reflection of what was learned or how the job task was performed.

BT Group, a telecommunications company in the UK, have seen improved results with reflection time.

The Director of Development at the time stated, “We looked at neuroscience when we were structuring learning experiences, for example how much people will take on, creating an “aha” moment of inspiration,

making it social, the amount of reflection that they need to consolidate learning and so on. … Most of the time was dedicated to reflection in small groups, in planning and practicing and turning what they'd heard into personal sense, skills, and plans."

The changes in the company were based on 'learning about the conditions under which the brain makes new connections and how you reinforce those connections'.

Teach them the science

Helping employees learn and understand the neuroscience principles can help them use them more frequently. Often times

people are not willing or able to do something unless they have reasons for why they are doing it. People often do not like change. Even people who don't mind it probably have to work hard to calm the panic that change can produce in the brain. When trying some of these techniques make sure employees have a choice and know the reasons why these things are important.

Take control of your hormones

The two hormones, cortisol and testosterone, create a delicate balance. When testosterone is too low, people can be perceived as weak or lacking in

confidence. Too high and they lose the empathy skills for creating collaborative and productive teams.

When cortisol is low, leaders are able to manage and lead even under pressure. Too low and they may not have the physical and mental reactions to respond to stress effectively. Too high and they are

overwhelmed by stress and are less productive. Here's a more detailed overview of how these scenarios translate into behaviors:

Low Testosterone/ Low Cortisol – This type of person may not exude strength and confidence but will probably appear calm and relaxed. Too little cortisol and they

might not respond to stress quickly and strongly enough to cope with it effectively.

High Testosterone/ Low Cortisol – This type, the most effective leaders in the study, are able to exhibit confidence and strength, while also being able to act quickly and successfully under pressure.

Low Testosterone/ High Cortisol – This type of person does not seem to be confident but is probably overstressed and anxious.

High Testosterone/ High Cortisol – This type of person may be in a leadership position, but may also have a difficult time handling stress. They may seem pressured,

scattered, or maybe a but aggressive when dealing with stress.

These behavior types may be familiar to you based on yourself or leaders or coworkers you know. It is important to think about how we may fall into these states across our lives, as hormones can affect our behavior, but our behavior can also affect our hormones. In other words, your hormone profile can be changed. These profiles are not constant and do not make or break you as a leader.

Here are some practical ideas to help you find the right balance:

Mindfulness

Mindfulness is a buzzword lately, but learning to focus on the present and letting worries and stresses go can decrease cortisol and make us more relaxed.

Diet and Exercise

Having a more plant-based diet, full of whole foods, can improve testosterone and lower cortisol levels naturally.

Add more cruciferous vegetables, garlic, and nuts to the diet, while eliminating processed sugar and alcohol. This is a good start to balancing hormone levels.

Exercise for about 30 minutes a day. This will reduce cortisol levels and overall feelings of stress.

The Power Pose

There is a pose, often referred to as the superhero pose, that has been shown to increase testosterone and decrease cortisol. The pose requires people to stand like a superhero: standing tall, feet apart, hands on the hips, chest out.

Social Skills

People who are skilled in emotional intelligence and people skills are better able to collaborate and communicate with others. The support of others and the

hormones released when feeling part of a group can help us handle stress and decrease cortisol levels.

Think and Talk Differently

Everyone deals with stress one way or another, but it seems that the way we think about it and the way we talk about it make a difference. If we are looking at a big task, we can say that it is overwhelming, or we can reframe it and call it a challenge. By changing the language we use to describe the situation, we can actually change how our bodies respond to it.

This eBook is a starting point for creating a work environment that is based around what is healthy for the brain. Companies who ignore how the brain functions are leaving a lot to chance. Sometimes things might be great, but then something can happen and they might worsen. Having a brain-based work environment can help leaders effectively navigate the rises and falls in the economic climate.

Be a brain-based leader by helping the people improve the work environment, and the environment improve the people. Both influence the other and, in a working system, there will be an upward spiral of motivation, growth, and productivity. Overtime, this environment will actually change the brains of the people in it, making the team and the organization better able to adapt to change.

About Hppy

Hppy is an employee engagement insights platform, providing leaders and HR managers information, data and ideas for creating better workplaces.

We provide content and services that support leaders be more efficient in designing, implementing and understanding employee engagement strategies.

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Resources:

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