Key Neuroscience Based Group Engagement Factors

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July 22, 2017

Introduction

For some time, Gallup polls have shown that worker engagement has been quite low across the board in the business sector of our economy. For instance, during the past decade Gallup surveys have consistently shown that roughly only 32 percent of the workforce is fully engaged while 51 percent are partially engaged and, worst of all, 17 percent are "totally disengaged." Thus, my intent in this paper is to do a relatively "deep dive" with the help of some pertinent neuroscience discoveries to determine what can be done to rectify the persistent low engagement among people in our places of work.

Fundamental Philosophical Considerations

We can't get more fundamental than first attempting to satisfactorily answer the question, "Who are we?" Award winning physicist, Sean Carroll, at the California Institute of Technology does an excellent job in doing just that in his latest book, *The Big Picture.* He states:

> We are a collection of atoms and particles, bumping into one another and interacting through the forces of nature. We are also collections of biological cells, passing electricity and chemicals back and forth as we metabolize free energy from our environment. And we are also thinking, feeling, caring beings, capable of contemplating our actions and making decisions about how to behave.
> It's the last bit that sets us apart. We are made of the same stuff as the rest of the universe, but our stuff is assembled just the right way that a new way of talking about ourselves becomes appropriate. We have the capacity to contemplate alternatives and make choices. It's not a mystical or supernatural ability, giving us the right to flout the laws of physics; it's a way of talking about who we are that captures some of the power of complex systems we call "human beings."

Or, as the renowned physicist Richard Feynman suggested some time ago, there is only one natural law, physics! So, is there a universal purpose to life? Not really except in a more general sense to live long enough to pass our genes onto the next generation. Let's be honest about it. We don't have a choice who our parents are and where we are born. Later we have some degree of choice as to how to proceed as we are buffeted about by the immediate and extended environmental forces around us. As aptly stipulated by Sean Carroll, "The natural world doesn't pass judgement; it doesn't provide guidance; it doesn't know or care what ought to happen. We are allowed to pass judgement ourselves, and we're part of the natural world, but different people are going to end up with different judgements."

What really counts is our overall life's journey! Hence, it's now time to get more specific as to what can be done to make the journey more rewarding in our work settings. In order to do that I'll switch the focus now to the individual and organizational level.

It Takes a Village

It takes a village or an organization averaging roughly 30 (a band) to 150 (a tribe) people to "comfortably" produce a product(s) or a service(s). Larger configurations are best divided into relatively independent bands or tribes for best "interactive" results. The 150-person limit the so called "Dunbar's Number" founded on the research of the well-known British anthropologist and evolutionary psychologist, Robin Dunbar. The number is an approximate cognitive limit of the number an individual can maintain stable relationships with over time.

What I'm suggesting here is that in order to establish and maintain high levels of engagement within an organization we need to stick close to the Dunbar Number. I define such a setting as the "Preferred Environmental Context" which I suggest is comprised of four general features:

- A mix of people with moderate self-interests and outward-reaching altruism.
- Is limited roughly to roughly 150 co-dependent individuals (The Dunbar Number).
- Its activities are based on shared interests and commitments, not top-down compliance.
- It promotes mutual well-being and a sense of community.

However, before we get to the cultural and engagement factors we need to first focus on the individual. Clearly, organizations are composed of individuals and each person is different from a genetic, personality, experience, education, etc. standpoint. Even identical twins are not completely identical. We need to bear in mind that no matter how positive or negative the culture is in an organization no two people will see its dynamics exactly the same way. Essentially, organizations are like amoeba constantly changing their configurations where one size does not fit all.

Individual Needs and Aspirations

So, what do we know from a fairly broad perspective about human needs? Since 1943 until very recently we have generally been reliant on "Maslow's Hierarchy of Needs" in answering that question. Maslow proposed that people are motivated by five basic needs. When one need is fulfilled a person seeks to fulfill the next one, and so on as shown in the diagram below.

Unfortunately, research has failed to validate the theory. It has, however, been quite popular because it "seems" to suggest what many of us aspire to. Nevertheless, the latest research in neuroscience by Eisenberg and Lieberman has completely upset the apple cart. What it has determined are two things:

- First—our motivation driving social behavior is governed by an overarching organizing principle of minimizing threat and maximizing reward.
- Second—our social needs are treated in much the same way in the brain as the need for food and water.

What that tells us from an organizational engagement and cultural perspective is quite interesting yet rather commonsensical. First, positive social inclusion is just as important as quenching hunger and thirst or being chased by a predator. Second, organizational success is directly dependent on how its culture has evolved and continues to progress in supporting or negating these two social imperatives.

So, what are some of the main factors of an organizational culture that support social engagement within a tribe? David Rock, the Director of the Neuro Leadership Institute, developed the SCARF Model based on five neuroscience based domains of desired human experience. The domains are:

- ***Status*** is about relative importance to others.
- ***Certainty*** concerns being able to predict the future.
- ***Autonomy*** provides a sense of control over events.
- ***Relatedness*** is a sense of safety with others.
- ***Fairness*** is a perception of fair exchanges between people.

Let's take a closer look at the five domains since I intend to propose how to apply them in conjunction with another influential neuroscience system dealing with emotions in amplifying engagement and, in turn, supporting the development of a more collaborative organizational culture.

1. *Status*. It's our sense of worth in any social setting. It also directly relates to the formal or informal pecking order in any organizational setting. Unquestionably, it's a significant driver of positive and negative workplace behavior.
2. *Certainty*. Clarity and certainty are vital in planning our activities. Our brains use less energy in familiar settings than in unfamiliar ones. Further, working with absence of clarity can increase an individual's stress levels and impair effective decision making.
3. *Autonomy*. Gives a person a sense of control over what they do. A person's brain will process the lack of autonomy as a threat situation (and this will lead to more stress), whereas being promised more autonomy actually activates the reward system in the brain.
4. *Relatedness*. We're all social beings and innately form social groups based on mutually beneficial relationships. Trust is a key element in the formation of such groups as is the formation of barriers against unknown threats. The increased production of oxytocin in

our brains further affects positive feelings of trust and helps to stabilize relationships. Hence, positive social settings are a key to success.

5. *Fairness*. Perceived threats automatically drive us into a defense mode. Conversely, the removal of a threat activates the reward circuits of our brains.

Rock summarizes the effectiveness of his model as follows:

> While the five domains of SCARF reflect core brain networks of greatest significance when it comes to collaborating with and influencing others, understanding these drives can help individuals and organizations to function more effectively, reducing conflicts that occur so easily amongst people, and increasing the amount of time people spend in the approach state, a concept synonymous with good performance.

It's not hard to visualize how the satisfaction of the five domains of desired human experience "can" positively influence and significantly increase the interactions between organizational members. What stands out is that there is nothing mechanical or one size fits all about these realms of practice. I will show how human emotions further heighten the dynamics of the domains shortly.

It's all, if you will, organic or as Sean Carroll has put it, "bumping into one another and interacting through the forces of nature." Also, there is nothing here that can be achieved by giving orders and directives. Rather it's all about minimizing threat and maximizing reward through mutually gratifying relationships. There is, however, much more that we should be cognizant of as we try to increase or maintain high levels of organizational engagement.

Relationships and Emotions

Relationships and emotions are vital emergent subconscious processes. As Robert M. Sapolsky points out, "we are constantly being shaped by seemingly irrelevant, subliminal information, and internal forces we don't know a thing about." Further, according to Timothy D. Wilson, "at any given moment our minds take in about eleven million bits of information but we are consciously aware of only 40 pieces of that information." Are these just interesting and fascinating facts to know? Hardly!

Robert Williams has compiled a partial list below of our subconscious mind roles:

- Is active every waking moment and not just when we sleep.
- Is proficient at multitasking.
- Senses most of what's taking place around us and governs the bulk of our reactions.
- Is much faster than the conscious mind-brain—a key to survival.
- Determines how we function as beings—personality, taste, talent, etc.

Essentially, our subliminal processes are vital foe our survival. They stay alert (even when we're not) regarding our rudimentary perceptions about the world around us and the internal homeostatic state of our bodies. Essentially, they are both our evolved alert system and autopilot without which we would be dead within minutes.

More precisely, every piece of subconscious data has a value attached to it via our emotional systems. Accordingly, one of the main functions of emotions is to alert us to unusual, dangerous, and unpredictable aspects of the world that might harm or help us. So, let's take a closer look at what one of the world's leading expert, Jaak Panksepp of Washington State University, has to say about emotions.

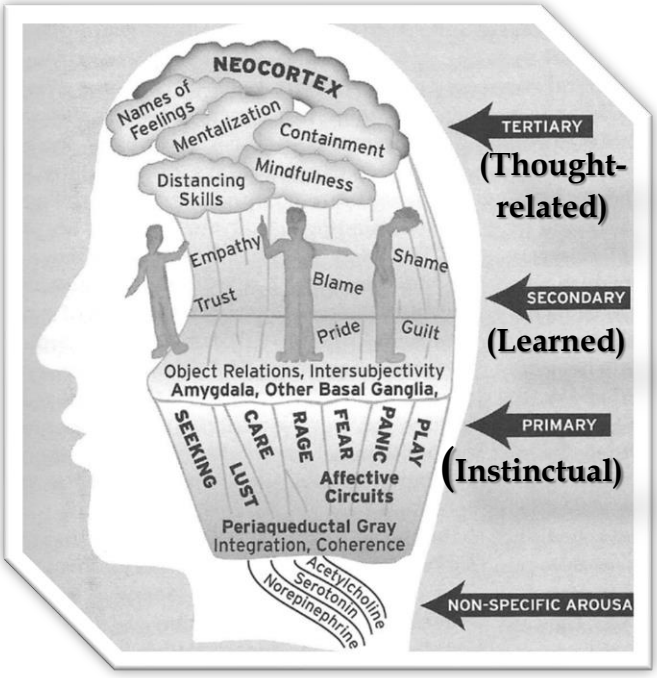
Through years of extensive research Panksepp has identified seven Affective (emotional) Systems listed in the figure below:

Our Affective (emotional) Systems

- **SEEKING – Enthusiastic**
- **FEAR – Anxious**
- **RAGE – Anger**
- **LUST – Sexual excitement**
- **CARE – Tender and loving**
- **PANIC/GRIEF – Lonely and sad**
- **PLAY – Joyous**

J. Panksepp & L. Bevin
The Archaeology of Mind, 2012.

The locations of these Affective Systems are shown by the diagram blow.



As one can see, the emotional systems are situated at the bottom of our Mind-Brain. It is our original quasi autopilot (which we also have in common with other mammals) that allowed us to

survive for thousands of years to evolve to our current intelligence levels. It's still as vital to our existence as ever and cannot be easily overridden by the two higher levels of the Mind-Brain. The upshot, according to Panksepp, is that "feelings came first in Mind-Brain evolution."

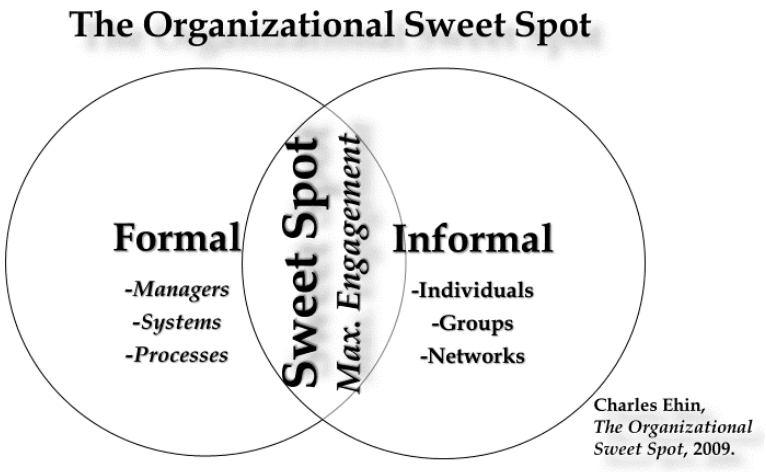
Panksepp states that "Psychologically, the core-SELF is dominated with affective feelings that are accompanied by some rudimentary perceptions about the world and the internal homeostatic state of the body. Higher forms of self-consciousness are elaborated by the intermingling of these primary affective capacities with secondary/tertiary mental abilities that encode an animal's ecological, social and cultural environments." He concludes by asserting that the mind "has a point of view, an I-ness. And every viewpoint that really matters is strongly tinged with affect…Affect is the very heart of what the brain does when it processes external 'rewards' and 'punishments."

So, what's the essence of Panksepp's assertions? More precisely what are the fundamental ties between organizational engagement dynamics and our Affective Systems? From a management perspective, there cannot be high levels of organization engagement without deep seated relationships based on individual member positive emotions of SEEKING, CARE and PLAY. More specifically per Panksepp, "When the affects are satisfying, life is a joy. When they are disturbed, life can be hell."

So, focusing exclusively on the degrees of *status, certainty, autonomy, relatedness, and fairness* that individuals aspire to is relatively meaningless without also including the emotional levels associated with these factors. It's all about reward and punishment and one cannot separate that from emotions. Accordingly, let's take a closer look at all this from a macro or an overall organizational perspective.

Organizational Setting

As we are well aware of, all "functioning" organizations (even self-managing systems), have a formal and an informal side as depicted by the figure below. The formal side of a standard hierarchical business generally has an assemblage of mangers, an assortment of systems, and established processes as to how the systems should be operated. Naturally, in a self-managing operation there will not be a layer of managers.



On the informal side, you have individual associates who carry out their assigned work either individually or in groups/teams. Further, all individuals are, in some fashion, members of one or more informal networks that may extend beyond the boundaries of an enterprise.

What is important to keep in mind is that the formal and informal spheres overlap. As you can see, I've named the over lapping area, *The Organizational Sweet Spot*, for some very significant reasons discussed shortly. What is also pertinent is that the spheres are not stationary but rather in constant motion. More precisely, the organizational sweet spot continually expands and contracts as changes occur in either of the spheres and the surrounding environment.

The key fundamental dynamics of the organizational sweet spot are as follow:

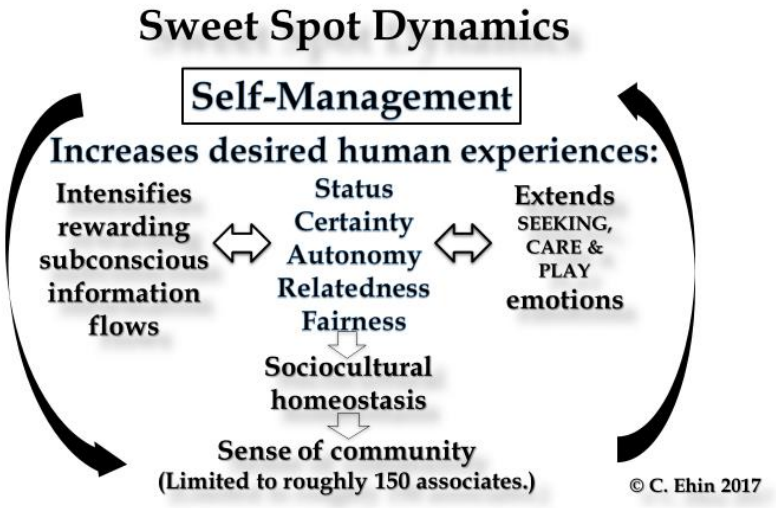
- The sweet spot portrays all work-related engagement taking place in a self-managing mode.
- The more the spheres overlap the more overall self-managing engagement is taking place.
- Maximum sphere overlap can eliminate the need for formal management.
- The spheres can never fully overlap since:
    - Total participant agreement on all systems and procedures is unrealistic.
    - Continuous full member engagement is unsustainable.

Before we continue to explore the more in-depth dynamics of the sweet spot, let's make sure we're in agreement on the definition of self-management. I define self-management systems as places where "all activities are based on shared interests and individual commitments rather than hierarchical control and compliance." The Morning Star Self-Management Institute defines self-management more comprehensively:

> Self-Management brings organizational structure to an enterprise spontaneously. Individual Colleagues, directed by their Personal Commercial Mission, are principally responsible for organizing their relationships. Their Personal Commercial Mission is their "boss." The managerial functions of planning, organizing, staffing, directing and controlling are the personal responsibility of each Colleague.

Further, it should be kept in mind that people even in the most stringent top down organizations carry out their assignments in a self-managing manner once they have received their instructions and training. If that was not the case a supervisor would have to stand behind every worker or team constantly barking out orders or instructions. That, of course, would be unsustainable cost wise.

Having defined self-management, a more rigorous and inclusive look is now possible of the sweet spot core dynamics portrayed below:



The hidden forces at work can be summarized as follows:

- Self-management directly amplifies the five domains of desired human experiences by the degree of job ownership.
- In turn, the five domains enhance an individual's sociocultural homeostasis.
- Further, expanding the five domains helps to develop a sense of community and common identity.
- Finally, every viewpoint is tinged with more positive emotions via subconscious information flows.

Clearly, under the right circumstances SEEKING, CARE and PLAY are activated more often and intensely than the other affective systems as the sweet spot expands.

Management Options

First, we need to answer a "seemingly" simple question, "What can and cannot be managed? I suggest that based on what we've tracked so far, it seems to come down to the following:

- Formal organization—systems, processes and management structures. *Manageable*
- Sweet Spot—voluntary value-added knowledge exchanges and activities. *Emergent*
- Informal Networks—innate drive to promote collective social interests. *Emergent*

It appears we're only left with one viable option out of the three contenders.

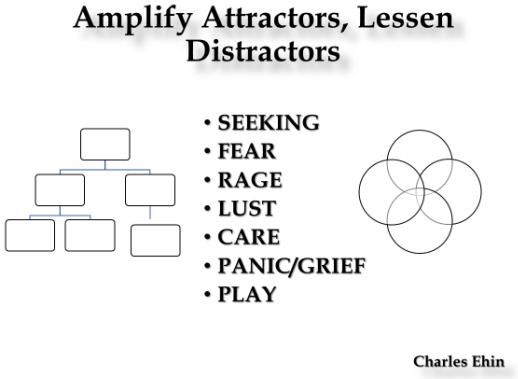
This brings to the fore a second critical question: "Is it really worth reducing or even eliminating hierarchical levels of management in an organization?" There is now a fairly simple answer to that question. Gary Hamel and Michael Zanini recently estimated that, in the United States alone, bureaucratic systems add roughly three billion dollars to the cost of doing business. They identify seven main causal main factors:

1. Bloat: too many managers, administrators, and management layers.
2. Friction: too much busywork that slows down decision making.

3. Insularity: too much time spent on internal issues.
4. Disempowerment: too many constraints on autonomy.
5. Risk Aversion: too many barriers to risk taking.
6. Inertia: too many impediments to proactive change.
7. Politics: too much energy devoted to gaining power and influence.

Just imagine how these bureaucratic features also impact the five desired human experiences discusses before from a negative or positive engagement perspective.

So, let's now focus on what can be done to enhance and eventually maximize engagement in an organization. To make the process easier to conceptualize I've developed the illustration depicted below:



First, except for Lust, I've taken the liberty to split the other six Affective System categories in two, namely Attractors and Distractors. What I'm suggesting here is that in general SEEKING, CARE and PLAY have a positive affect whereas FEAR, RAGE and PANIC/GRIEF have a negative effect on organizational engagement.

So, what's all this have to do with managing an enterprise in a more fruitful way? Fundamentally, if you want an existing organization or a startup to have high levels of engagement (and hence be more productive) you have a measure of options between a strict top-down hierarchy to full self-management.

The choices, of course, are optional depending on how engaged one wants the workforce to be. That is, how responsive and productive do you want the organization to be? That's not a senseless question. Some folks may be satisfied with relatively low productivity and worker engagement with reasonable levels of income. Essentially, they may be unwilling to make a greater investment in raising the levels of engagement.

For those who want to go all out, here are some specific ways to increase the engagement levels of your associates. First, one should digest what neuroscientists consider to be an ideal social work setting. John T. Cacioppo, of the University of Chicago, paints the following picture of an ideal work setting:

When we feel safe and secure within our social connections, we can move along free of biases and unwarranted expectations. Relaxed and attentive, we can be in sync with the movements of others. With no expectations that we'll be excluded, our defenses, flight-or-fight mechanisms are not on ready alert. Free from all that distraction, we are able to detect more reliably whether any budding connection is promising or an invitation to the blues. Living more calmly in the moment, we can make better choices. Which has the added benefit of helping improve our larger social environment over time.

Few people may disagree with the appropriateness of such a work setting. At the same time, many also see the investment in developing such a work environment as a waste of time, effort and money. Basically, you get what you pay for.

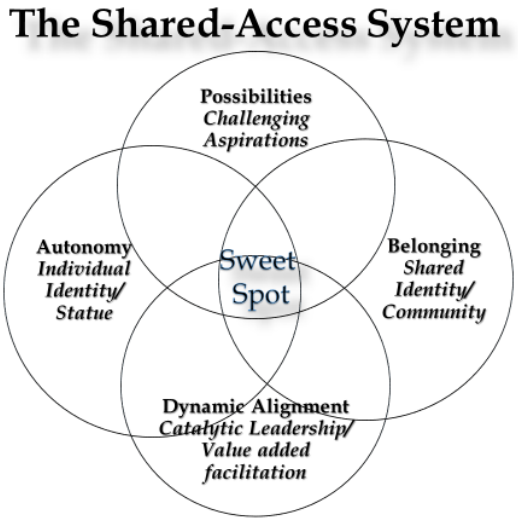
The second important factor that needs close attention when an attempt is made to increase productivity via increased worker engagement is the Dunbar Number mentioned earlier. Bill Gore, the founder of W.L. Gore & Associate (best known for Gore-Tex) was aware of the 150 number even before Dunbar's research brought it to light.

Gore had a simple but quite effective rule: Everyone in a given plant had to know everybody by their first names. Once that was no longer the case a new plant was started. Interestingly, that number equated to roughly 150 associates.

What we now know from Dunbar's research is that even at an assemblage of 150 people forty-two percent of their time is spent on what Dunbar refers to as "social grooming" or keeping proper informal connections within the group. Once you go beyond that number people lack the time and energy to properly stay in touch with one another. Actually, the optimal number for high social engagement is 30 to 50. That entailed the approximate number of a "band" in our hunter-gatherer evolutionary past.

A Sample Model

Below is a model that I've been refining ever since I published it in my first management book, *Unleashing Intellectual Capital* in 2,000. Fundamentally, it *portrays* a self-organizing system.



However, before I get into any kind of detail concerning the model a cautionary note is in order. What I want to convey very emphatically is that this is "my" envisioned system. Therefore, I strongly suggest that everyone interested in this topic should develop their own model even if you happen to agree with most of what I'm proposing. That is, every organization should develop their own unique framework so that they can truly call it their own. Ownership is key to organizational success no matter what the pursuit might be.

With that in mind, let's take a brief look at some of the details of the Shared-Access System. Shared-Access implies everyone has free access to all the productive factors of an organization rather than only a few in a "Controlled-Access System." The model is founded on four tightly integrated modules. As depicted in the diagram, individual identity through high levels of autonomy is vital for success as is the development of a sense of community where people truly feel that they belong.

Further, everyone is striving for challenging goals/aspirations both individually and in concert with other associates. Additionally, dynamic alignment is achieved and maintained through what I have defined as catalytic leadership. Catalytic leadership has nothing to do with position power. Rather, it's founded on value added facilitation. That is, people keeping each other in the loop through high levels of engagement.

Lastly, below are some additional specifics about the Shared-Access System dynamics.

Approaches to Maintaining Order:
Chaotic synchronization is the basis for all activities; emphasis is on order through dynamic interconnectedness.

- Proper direction is attained and maintained through a collective mindset and self-reference (order parameter-phase transition)) and not by conformity or a "herd mentality." It is unity expressed through diversity.
- Everything is open to constant examination, experimentation, and improvement except the common purpose, which provides the necessary dynamic coherence for the community.
- Change is part of the everyday process. The organization is intended to operate on the edge of chaos, never in a stable, fixed point but continuously evolving in response to an unpredictable environment.
- Organizational members are considered to be *partners* responsible and accountable for all actions, including the maintenance of a common vision.

Work Practices:
Mutual encouragement is given for constant examination and experimentation that may lead to more challenging and rewarding work processes.

- A strong belief that organizational strength stems from the synchronized effort of extraordinary people is evident. Consequently, everyone is expected to continuously attain new competencies that benefit not only the company but also the growth and worth of each individual member.

- Every opportunity is taken to strengthen the sense of community through mutually beneficial activities, interactions, and the sharing of sentiments.
- The pursuit of creativity and innovation is enhanced through the persistent encouragement of constructive dissent in an atmosphere of trust.
- Systems thinking is pervasive. Interconnectedness of all proposed actions and continuing activities are diligently scrutinized to ensure effective common purpose. Everyone shares a part of the image.
- Every member routinely determines that all activities, resources, and rewards are equitably managed.

Frequently Heard Comments:

- Can you think of other options?
- Am I on the right track?
- Let's take another look at that deadline.
- Thanks for taking the initiative.
- How often should we meet?
- We're in it together.
- What's your gut feeling on this?
- How can I help?

So, how do I define enduring engagement? I describe it simply as, "Reciprocally caring relationships committed to pursuing agreed upon goals." Yes, it's simple to define but requiring inordinate effort to not only attain but also to sustain such high levels of engagement.

Conclusion

Our bodies internally and externally are in constant motion. Accordingly, we should be continually engaged with the people around us, whether at work or in our own neighborhoods, since what really counts is our finite life's journey!

It will also help if we keep in mind that our social behavior is governed by an overarching principle of minimizing threat and maximizing reward. Further, these innate drives are so dominant that they are treated by our brains in the same way as the need for food and water. Above all, emotions rule our subconscious realms.

From a management perspective, positive social inclusion is just as important a as quenching hunger and thirst. Also, organizational success is directly dependent in how its values support the general domain of desired human experiences and the overarching primal emotions that accompany them. We should never forget that when the emotions are satisfying, life is a joy. When they are disturbed, life can be hell!

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