



# Translating the Neuroscience of Behavioral Economics into Employee Engagement

**A White Paper on the IRF Research Study  
*Using Behavioral Economics Insights in Incentives, Rewards,  
and Recognition: The Neuroscience***

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It typically takes ten years for science breakthroughs to influence real world applications. The Incentive Research Foundation's paper *Using Behavioral Economics Insights in Incentives, Rewards, and Recognition: The Neuroscience* aims to expedite this process. Offering practical C-suite takeaways, the IRF's report describes some of the unifying behavioral economic principles connecting the powerful role of emotions in employee performance.

As productive employees are more readily recognized as playing a vital role in maintaining a profitable business in today's competitive marketplace, effective businesses now require a systematic, strategic use of motivation and recognition in practice. Incentive, Rewards, and Recognition (IRR) professionals help all business types design and implement motivation programs to improve productivity, performance, morale, and retention with their employees and channel partners.

## Behavioral Economics

Behavioral economics proves to be a more useful tool than traditional economics in helping employers understand what actually motivates employees, because it recognizes the majority of human decision-making is emotional as opposed to rational. It integrates social, cognitive, and emotional factors to more fully explain human decision-making biases and challenges long-held traditional economics assumptions such as:

1. People tend to act rationally and in their own best interests when making decisions and
2. Money is the most effective motivator of all employees

Behavioral economics helps explain why some incentives are more effective than others and how they can strategically apply these principles to their own businesses.

## Neuroeconomics

Neuroeconomics provides an additional powerful layer of proof by exploring the biologic underpinning of decision-making. In many ways behavioral economics and neuroeconomics are like a tag team trying to wrestle neoclassical economics out of the ring for its failure to accurately capture how real human beings think and make decisions.

Technological advances allowing researchers to probe the brain in unprecedented detail are powering an explosion in neuroeconomics research. For instance, brain-imaging technologies now allow us to see which brain areas are active during economic decision-making and which are not.

The most powerful neuroeconomics finding is that all forms of reward – monetary or otherwise – are processed in the brain's master reward center, the striatum, and are experienced as rewarding feelings. For example, when research subjects are offered various forms of reward – ranging from their favorite food to a compliment to a monetary gift – neurons in this structure fire. This means

rewarding employees intrinsically by treating them better or rewarding them extrinsically with money are treated equally in the brain, with both causing rewarding feelings emanating from the striatum and the dopamine reward system. This important finding is at the base of helping organizations craft more effective, rewarding environments.

## Using Emotional Reward Units to Craft a Rewarding Environment

Consider two employees, A and B. Both make the same monetary salary and benefits—let’s say \$50,000. We will assume that this amount of pay creates positive feelings in the striatum equivalent to 10 emotional reward units, or ERUs. Employee A unfortunately works for a toxic manager who makes his life a nightmare. Employee A receives constant criticism, is threatened and disrespected, and never gets a kind word. The pain experienced by employee A creates a reward deduction of let’s say 5 ERUs. The emotional take home “pay” for employee A is therefore only 5 ERUs (10 ERUs–5 ERUs).

Employee B is luckier. She works for an emotionally intelligent manager who understands human nature, takes a personal mentoring approach, believes in coaching employees and recognizing their achievements, and tries to encourage their development and success. Employee B loves coming to work and therefore gets a 5 ERU bonus on top of her monetary pay, which results in an emotional take home “pay” of 15 ERUs.

Who do you think will want to work harder to meet the organization’s goals: the employee earning 5 ERUs or the one making 15 ERUs? The answer is obvious – the more rewarded employee will be more engaged and more productive. This is why considering engagement as a system, versus an individual intervention, is crucial to organizations.

## Applying Brain Principles for Better Business

As Nobel-prize winning economist Daniel Kahneman discussed in his book *Thinking, Fast and Slow*, our brains form thoughts in two ways:

- **System 1:** A fast, automatic, involuntary, subconscious system (sometimes called the old brain) which harnesses all of our life experiences to date and where decisions are initially made (and feelings emitted) within milliseconds of encountering a situation. For example, driving to work on “autopilot” without giving it much thought or getting a “gut feeling” about a situation.
- **System 2:** The “conscious” system where we think about, deliberate, imagine, and analyze the world around us.

It is most important to know that System 2 is more energy-intensive on the brain, so the brain therefore offloads as much work as possible to System 1. This is why after much deliberation we will select the easy, automatic solution because it ‘feels right.’ In sum, finding ways to work in tandem with System 1 can help us create more effective engagement solutions. Five examples are below:

**The Associative Machine and Halo Effect:** The associative machine takes all of the information we know about something (such as “bird”) and stores it under a filing for fast recall. If we come across something in an unfamiliar situation, the associative machine pulls up whatever facts it has in memory (wings, nest, egg) to instantly provide an explanation of the situation at hand

and provide a feeling of confidence. For ease of processing, the brain will also combine and connect what it deems as relevant connected experiences – called the halo effect. This is how fuzzy, pink bunnies or dancing fruit can cause things as mundane as batteries and underwear to emit positive emotions within us. This holds true for the workplace as well.

- **Implications:** The more highly positive, emotional experiences, throughout the lifecycle of employment an organization offers from hiring to retirement, the more positive emotion one associates with the company.

**Emotional Stamps:** Given the amount of information we must process each day, the fast part of our brain does much of our thinking. All of our memories are marked with an emotional stamp that controls their storage and retrieval. The stronger the emotional stamp, the easier the memory recall.

- **Implications:** Simply put, if we want people to remember things, we must tap emotions in some manner.

**Frequency Bias:** Our brains employ a frequency bias, which means ideas, thoughts, images, and awards that we see more frequently “feel” more familiar and therefore “feel” more positive. Hence, more frequently mentioned awards or destinations will have an automatic, emotional edge over the less-known alternatives.

- **Implications:** The more reward and recognition happens within an organization, the more often it will continue to happen and “feel” like a normal part of business.

**Temporal Bias:** We remember short, peak emotional experiences more than average ones. This finding means at *most*, that short, highly impactful reward experiences may be more memorable and at *least*, that all reward experiences should conclude with the most emotional part of the event (or the big reveal) as the final portion. If it happens at the beginning of the day, quarter, year, or event, that time frame will be less likely to be perpetually stamped with the positive emotion.

- **Implications:** Meetings and incentive travel programs should always end on a high, emotional note.

## Harnessing Human Drives for Better Business

In *Driven: How Human Nature Shapes Our Choices*, Harvard researchers Paul Lawrence and Nitin Nohria propose four social drives that complement our biologic drives and regulate virtually everything happening in the workplace. If we learn how to work in tandem with these productive drives, our companies will enjoy maximum productivity and our employees will experience maximum engagement in their work.

The social drives create pleasant and painful feelings that push and pull on us during the course of a typical workday, subtly encouraging us to inquire, invent, achieve, and cooperate as a corporate team. Based in neuroscience, psychology, anthropology, and biology, Nohria and Lawrence found they serve as motivational “hot buttons.” When pressed *individually*, motivation rises marginally, but when pressed *all together* motivation grows exponentially within an organization – causing even larger impacts to engagement, retention, and commitment. Reward and recognition provide organizations a powerful tool because, in a single intervention, they help activate all of these four drives: acquire, bond, innovate, and defend.

**Drive to Acquire:** Employees are driven to acquire tangible goods (money, property, cars) as well as intangible skills (expertise, new abilities) and status. Dopamine is released into the brain anytime we anticipate achieving a goal or we achieve it. Likewise, companies provide compensation to employees and want them to be competent, confident experts. Ideas on activating include:

- Make goals clear with defined implications for achieving
- Train managers and each employee to recognize and reward positive, productive, aligned behaviors
- Set high, yet achievable, targets that are broken in to sub-goals, then reward their realization
- Make recognition public and provide status to recipients
- Provide rewards (tangible or intangible) as close as possible to the desired behavior
- Make recognition spontaneous, personal, and heartfelt (not on auto-pilot or auto-schedule)
- Provide down time after long periods of extensive effort to achieve a goal
- Provide tangible rewards to supplement intangible recognition from managers and peers
- Provide group goals and celebrations

**Drive to Bond:** Employees are driven to have authentic caring relationships not just with family and friends but with their workmates and supervisors (their tribe) and to experience the warm, friendly feelings that come with them. Humans are also the only creatures which bond to abstract concepts such as 'team' or 'nation.' Bonding is supported by the release of the neuropeptide oxytocin in the brain. Likewise, companies want employees to collaborate and cooperate as a team in order to solve difficult problems. Companies that provide rewards for group achievements are working harmoniously with the drive to bond. Ideas on activating include:

- Have employees create online profiles that are socially available for all to see
- Create randomized dyads of employees and encourage mutual-mentoring where they work together to solve problems
- Ensure each instance of reward and recognition has a face-to-face element

**Drive to Innovate:** Employees are naturally driven to learn about the world around them and create new thoughts, systems, process, relationships, and goods based on these discoveries. Studies show how opioid receptors in the brain help create a "Eureka Pleasure," meaning it feels good to satiate curiosity, think up a new an idea, solve a difficult problem, or comprehend a difficult concept. Likewise, companies also want their employees to learn and innovate. Ideas on activating include:

- Give all employees at least a small amount of time to innovate within their sphere of knowledge
- Ensure each instance of reward or recognition helps the employee learn the exact behaviors that are valued and important to the organization
- Encourage managers to have an "open door" to hear new ideas
- Continue to encourage employees when an idea does not pan out
- Organize dedicated "skunkworks" teams to promote radical innovation

**Drive to Defend:** Employees are driven to feel safe and secure and to defend the objects, people, and ideas they hold dear. The brain's prefrontal cortex is an active participant in activating our defensive mechanisms, causing us to feel irritated, frustrated, angry or scared when we believe a closely held relationship or our status is at risk. Likewise, organizations want to minimize the activation of this drive and the inherent stress and negativity that arises when employees are in active-defense mode. Ideas for mitigating this drive:

- Maintain openness and transparency in all communications regarding determination of all organizational incentive and rewards
- Gather employee input on incentive, reward, and recognition efforts to ensure they are perceived as fair
- Remind employees often of their importance to the organization's mission

If when collectively activated, these drives have a compounding effect, then well-executed organizational incentive, rewards, and recognition programs hold a crucial opportunity for organizations, since they present, in a single instance, the opportunity to hit on all four drives at once. *In a single instance of giving an employee a reward or recognition, the organization allows an employee to acquire status (and potentially good or services), to bond with their team or the person giving the recognition, to more deeply comprehend what is important to the organization, and to defend the very deeply held belief that he or she is good at what they do* and has chosen the right organization for employment.

From studies on oxytocin to dopamine to the pre-frontal cortex, there is no shortage of emerging neuroeconomics research on what makes humans, and employees, tick. By working in tandem with the brain, however – and considering concepts such as the associative machine, the halo effect, emotional reward units, and the four drives – businesses will craft organizations that are not only highly productive and competitive, but better for employees overall.

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**To download the full study, *Using Behavioral Economics Insights in Incentives, Rewards, and Recognition: The Neuroscience*, please visit: <http://theirf.org/research/translating-the-neuroscience-of-behavioral-economics-into-employee-engagement/2083/>**

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To download the companion study, *Using Behavioral Economics Insights in Incentives, Rewards, and Recognition: A Nudge Guide*, or to download the white paper, *How to Effectively Harness Behavioral Economics to Drive Employee Performance and Engagement*, please visit: <http://theirf.org/research/how-to-effectively-harness-behavioral-economics-to-drive-employee-performance-and-engagement/2072/>