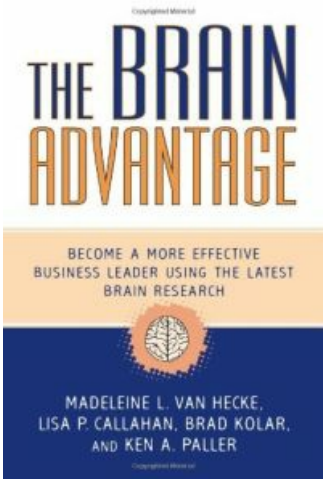

Book The Brain Advantage

Become a More Effective Business Leader Using the Latest Brain Research

Madeleine L. Van Hecke, Lisa P. Callahan, Brad Kolar and Ken A. Paller
Prometheus Books, 2009
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Recommendation

Great business leaders strive to improve their knowledge and capabilities, and to gain as much experience as possible. However, most executives do absolutely nothing to develop their cognitive processes, that is, to improve the way their brains work – although the brain is malleable and teachable according to clinical psychologist Madeleine L. Van Hecke, cognitive neuroscientist Ken A. Paller, learning authority Lisa P. Callahan and management expert Brad Kolar. The authors step forward to help businesspeople enrich their brains, anyone's most crucial tool. This book presents up-to-date brain research and down-to-earth tips on how to employ this information to become a more effective leader. *BooksInShort* recommends this unusual, intriguing book to anyone who wants to think more clearly.

Take-Aways

- Neuroscience has much to offer executives, since improving your brain function will help you be more effective.
- You can manage your brain better, and think and act more clearly, logically and wisely.
- The physical brain is notably malleable; you can change it to work in new ways
- Often the brain formulates instantaneous decisions before you can make a conscious choice. In such situations, learn to count to 10 before acting.
- The brain sometimes clings to flawed, illogical or wrong ideas, so try to think objectively about your cognitive processes.
- Firms stifle innovation by focusing on structured executive functions, not creativity.
- Trust is crucial in business, but the brain hormone oxytocin can trigger a feeling of trust, even in regard to untrustworthy people.
- When faced with a "fight, flight or freeze" scenario, shift your attention to a "cognitively demanding" task to regain conscious control over your reactions
- Future brain research will improve the standard of people's lives.
- Don't believe everything you read about brain research or brain-related remedies.

Summary

Rewiring the Brain

When Cheryl was 35, a medical overdose damaged her inner ear, leaving her a distorted sense of balance. She felt as if she was in constant danger of falling down. She could not tell if she was sitting or standing, and she often crashed to the floor. Perpetually disoriented, Cheryl lost her job and had to apply for disability benefits.

> "The brain has a mind of its own." (neurologist Richard Restak)

Neurologist Paul Bach-y-Rita proved the malleability of the brain by the way he helped Cheryl. He designed and constructed an ingenious helmet that gave her with

special somatic cues to tell her if she was stable and standing or sitting upright. With this device, Cheryl regained her equilibrium. When she took off the helmet after a minute, she recovered her stability for 20 seconds. When she wore it for prolonged periods, her sense of balance lingered for increasing amounts of time after she removed the helmet. Its "electrical impulses" created "secondary pathways" in her brain, building new "balance signals" and proving the brain can change.

> "Our brain often makes decisions before we get a chance to consciously decide anything for ourselves."

Cheryl no longer needs the helmet. Her experience illustrates the power of "neural plasticity." In far less drastic ways, your brain, too, is capable of training and retraining. The brain can convert "neural real estate" to handle new cognitive tasks, which is what happens when "blind individuals learn to read Braille." The business implications of this research reside in its "hopeful" indication about the brain's vast potential to learn.

Stuck in a Mental Rut?

Your habitual mental routines can trap you, leading you to commit avoidable cognitive errors. Try to weigh objectively what you think, say and do. Step back and ask reflectively, "What is going on inside my brain, how do I feel about it and what does it mean to me?"

> "All too often, we answer before we fully take in what someone else is saying, and before we fully consider what we are about to answer."

By thinking about what you think, and armed with valuable insights from recent brain research, you'll be in a better position to evaluate your mental processes (and subsequent actions) and adjust them as needed. Ask, "Who is really in charge?" Are you alert, thoughtful and in command, or are "other brain processes that work" beyond conscious awareness running the show? Executives who know how their brains function can "intentionally slow down the pace during important situations."

> "Einstein once said that if you gave him an hour to solve a problem and his life depended on getting the right answer, he would spend 55 minutes figuring out what questions to ask."

When jazz pianists play extemporaneously, they don't think about it; they just play. Brain research indicates that during innovative, creative improvisation, the medial prefrontal cortex, which scientists associate with self-expression, becomes active. The self-controlling orbital frontal cortex does not. Science hypothesizes that the frontal cortex deactivates during improvisation because it works against creativity. The dorsolateral prefrontal cortex, which controls "executive functions" like planning, goal setting, and so on, also switches off during improvisation. Scientists suggest this is because it restrains the flow of creativity.

> "To learn from mistakes, people need feedback that energizes the creative process instead of stopping it in its tracks."

Although companies must be innovative, corporate leaders rely on a "neural orientation" that focuses on executive functions, not creativity. This supports structured programs such as Six Sigma, which attempts to "reduce variability, establish norms and then increase adherence to those norms," but does not foster creativity. To encourage the creativity that innovation requires, executives should create broad "boundaries" in which their staffers can operate according to their own creative dictates. Leaders should pay more attention to their staffers motivation ("why" they work), and less to their processes ("how" they work). With this change in orientation, managers could better facilitate innovation instead of continually correcting employees who alter expected processes. Excessive executive function can work against creativity.

Autopilot Versus Heavy Concentration

Research shows that the brains of highly intelligent people do not need to work as intensely as those of the less intelligent. Similarly, the brains of people with strong experience work less hard than the brains of inexperienced people, perhaps because people who don't know much about events around them must consciously think about their actions. In contrast, the brains of individuals with vast experience operate, in effect, on autopilot. This is often good, but not always. For example, seasoned rock climbers should think carefully about each step, even if they've gone through the same actions many times. Rock climbers have everything to lose by not paying close attention.

> "Conscious analysis can...interfere with creative problem solving and innovation."

Executives want their employees to operate efficiently, perhaps as if on autopilot. But they need their staffers to be able to make deliberate, conscious choices when needed. Businesspeople can learn from the savvy fire captain who sets his wristwatch to sound an hourly alarm at a fire scene as a reminder to himself to stop and think carefully about events inside the fire and among the professionals fighting it. Leaders should encourage employees to stop periodically and ask, "Is there a more efficient way to do what I am doing?" and "Am I getting lost in the details?" Executives should occasionally welcome workplace visitors who do not represent the status quo or the routine way of doing things to encourage their staffers to stay open to new perspectives.

"Relationships" – Whom Can You Trust?

The "trust game" is an exercise that economists developed to determine if trust is a deliberate calculation people make. It is. In this exercise, researchers hand money to people and instruct them to give as much as they wish to a "trustee" in an adjacent room. They're told that whatever they give, the trustee will get three times as much and can decide how much to give back. Trustees who returned half the money or more gained more investors. "The trust game depends mainly on how fairly" people perceive they've been rewarded. Gains beget trust, though the players don't know when the "trustee" might decide just to keep all the cash.

> "For trust to develop between leaders and employees, both parties need to demonstrate their trustworthiness."

Neuroscientists viewed players' brains via an MRI hyperscanning device as they played a variation of this game. The paracingulate cortex, the portion of the brain that helps you determine someone else's mental state, becomes active early in the game, but grows less so as the game progresses. Thus, scientists speculate, while the players are establishing a sense of trust early in the game, this brain section activates. However, once trust develops, this perceptive function does not need to keep operating. Though when the players let down their guard, they can lose their winnings. Additionally, the brain's septal area, which may control the release of oxytocin – the bonding hormone that inspires trust – becomes active in players who never betray each other.

> "Many leaders understand the importance of empathy on an intellectual level, but often they don't act on their understanding."

In business, trust is crucial. If you cannot trust your employees to do their work, your firm will fail. However, the release of oxytocin may lead you to trust people who are not worthy of your faith in them. For example, you often bond with those who share your lifestyle, ethnicity, religion, and so on. Think objectively about why you trust some, but not others.

How Can You Decide?

John Nash, a brilliant economist, earned a Nobel Prize for his work in game theory, but he suffered from mental illness. He once told a colleague he would be unable to accept an MIT professorship because he was "scheduled to become emperor of Antarctica." When his colleague asked how Nash could believe such a nutty idea, Nash replied that just as he felt certainty about his economic ideas, he felt the same about ruling Antarctica. No one could argue Nash out of this strong "feeling of knowing."

> "What if leaders could identify the business situations that, for them, put the amygdala into high gear?"

You don't have to be mentally ill to believe incorrect premises or to jump to mistaken assumptions. Sometimes, the brain may signal that you are making a correct decision when, in fact, you are not, yet important choices create situations where you must rely on the validity of your beliefs. Anyone can be wrong, so leaders should take care to temper their decisiveness with accuracy. Before selecting one side or the other, examine your premises and facts, bearing in mind that what you are most sure about may not be valid after all.

Rise Above Your Inner Vigilante

Aware executives can avoid acting impulsively in tense, scary or emotional situations. In such crises, the brain often formulates instantaneous decisions (it shifts to "autopilot") before you can make a conscious choice about what to do. In such a situation count to 10 before you act. In 2008, radio broadcaster Don Imus learned this lesson the hard way. Without thinking, Imus referred to black members of the Rutgers University women's basketball team in a racist manner. CBS quickly fired him for his intemperate remarks. Imus admitted his actions were "really stupid."

> "Leaders can't fake being authentic."

In 1984, New Yorker Bernard Goetz, once the victim of a mugging, became notorious as the "subway vigilante" when he shot four black teenagers "who had accosted him on the subway and demanded five dollars." During his trial, Goetz's attorney stated that the previous mugging had rendered Goetz reasonably and justifiably fearful, so he acted in legitimate self-defense.

> "There are costs associated with trying to hide our emotions. We may suppress the expression of those feelings, but that does not mean we are no longer actually experiencing them."

Is this a viable claim? When you feel endangered, your brain's limbic system goes into overdrive. This area of the brain includes the amygdala, a cluster of cells that takes over when life suddenly becomes unbearably intense, making it difficult to act reasonably. Instead of a deliberate response to a perceived crisis, people experience one of three visceral, instinctual responses: "fight, flight or freeze." Apparently, the fight response overrode Goetz's cognitive processes.

> "Our brains can often tell the difference between authenticity and parody."

What can you do in the face of such primitive, instant reactions? Try to shift your attention from the supposed imminent danger to some "cognitively demanding" task. This deactivates the amygdala and helps reason replace fear. Think how differently things would have turned out for Goetz if he had paused to ask himself: "What am I feeling?" Always challenge yourself mentally in a positive way. Avoid dwelling on fear, since that hyperactivates the amygdala.

> "The human brain is a three-pound miracle."

In certain situations, some business leaders have reacted as instinctively as Goetz did on the subway. Arthur Andersen accountant David Duncan panicked and ordered his staffers to shred Enron documents, a terrible decision that destroyed Andersen. What if he had paused and thought about the implications of his commands? To be an effective leader, learn to muster your "emotional intelligence," which includes "emotional management." To maintain your equanimity, gather your senses and be cautious about what can happen if your amygdala takes charge.

A "Neuro" Forecast

Expect current and future brain research findings to improve your life and to change how society handles challenges. For example, it may become customary to test people's cognitive abilities when they reach age 50 to determine if they have experienced mental deterioration. Along with their golf courses, swimming pools and recreation centers, retirement communities may one day include sophisticated cognitive fitness centers to help seniors stay alert and mentally sharp. Research shows that "cognitive training" helps older people deal better with Alzheimer's disease.

One firm, Brain Resource Corporation, already provides tests that evaluate "attention, new learning, memory and language fluency." Another company, NeuroFocus, uses neural recordings to help marketing researchers determine the most compelling aspects of advertisements. Since brain scans can determine if people are lying, the courts may one day use such testing to determine witness reliability. Other "brain-based programs" will notably affect how people live their lives in the future. Meanwhile, you can even do your own testing. Allstate Insurance is working with InSight, a program that supposedly aids "visual processing," a key factor in driving. Check the various "brain fitness programs" now available to see which ones may be useful for your company. For example, the website for Sharp Brains offers data about "brain fitness products" and "Neuroleadership Summits."

As you investigate this area, "don't outsource your own brain! Take brain research with a grain of salt." Do not believe everything you hear about the latest brain fitness

programs and products. Some hucksters make outlandish claims, such as, “Take 10 years off your ‘brain age’.” At the same time, some legitimate products can improve cognition, including “working memory.” Use your judgment and your brain to make solid choices. Brain research is just that – research. As such, it does not represent the “final word” on anything. Science is hypothetical, provisional and constantly evolving. Nothing scientific is set in stone. Happily, neither is your brain.

About the Authors

Madeleine L. Van Hecke is a licensed clinical psychologist. **Lisa P. Callahan** directs knowledge management activities for Accenture’s outsourcing practice. **Brad Kolar** heads Kolar Associates, a consultancy. **Ken A. Paller** is a Northwestern University cognitive neuroscientist.