Enhancing Leader Performance through Cognitive Versatility
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Based on the latest discoveries of neuroscience research, leadership research on the relation between cognition and performance has advanced. Cognition is the mental process by which information is acquired, organized and evaluated. We perform high-level cognition for complex functions such as making decisions, forming opinions, generating ideas, and understanding others and ourselves.

Neuroscientists used to believe that left and right hemispheres of the brain carried out different functions. But now, they know that specific functions are performed by a circuit of neurons which are situated in more than one region of the brain and often in both hemispheres. Neuroscientists also supported that every individual processes information in two parallel modes interactively: 1) the deliberate, relatively slow, resource-consuming “analytical-rational” mode; and 2) the automatic, fast, effortless “intuitive-experiential” mode. Sometimes, both modes work complementarily, for example, when making analogies and generating creative solutions.

Hodgkinson and Clarke describe four cognitive styles or preferences combining analytic (formerly called left-brain) and intuitive (formerly called right-brain) modes:

They propose that leaders should be self-aware of which of the 4 styles (quadrants) they prefer, but modify their preference to match the situation. For example, “detail conscious” or highly analytical leaders should restrain from delving into details when reviewing competitive landscapes or brainstorming. “Big picture conscious” or highly intuitive leaders may want to avoid using simple rules of thumb and thoroughly consider sufficient details when making important decisions.
Ideally, a leader should aim at becoming cognitively versatile, flexibly shifting between the “detail conscious” and “big picture conscious” styles as the leadership challenge requires. Not only should non-discerning leaders improve their own analytical and intuitive abilities and tendencies, but their supervisors and peers also need to motivate them to be more involved in complex cognitive functions in a team.

Leadership researchers have carried out voluminous empirical studies on the two modes as well as their interplay with emotions to explore how to enhance cognitive abilities. There are many means, such as training, using tools and managing emotions. In this article, the following recommendations focus on complex functions, particularly creative problem solving and strategic decision-making.

Cognitive Skills Training

Training can take a wide range of forms. For example, group discussion of a diverse portfolio of decision-based case studies of real-life business situations can be a powerful approach to learn causal analysis and other cognitive skills. Be it courses from a business school or at an in-house institute, leaders can quickly develop their creative problem solving and strategic decision making skills by taking the roles of different case protagonists facing pressing management dilemmas, and discussing their thoughts with their peers. In addition, because intuition is based on accumulated experience, leaders should not hesitate to enrich their experience by regularly trying something different.

The research that backs up this recommendation includes a study in which solutions to a problem were rated according to quality (logically coherent), originality (surprising) and elegance (well organized). The conclusion indicates that intuition clearly contributes to creative problem solving. However, individual differences in intuitive ability (capacity to recognize and exploit emergent patterns) exert stronger effects on elegance and quality than originality of solutions. In addition, training on causal analysis (to identify causes of a problem), associations (to compare and link different pieces of information) and fit appraisal (to evaluate whether an element meets the requirements) can improve creative problem solving. This echoes an earlier study which shows that training causal analysis led to originality of solutions, especially in less familiar domains, implying that originality demands active and elaborative information processing, i.e. the “analytical-rational” mode. All these results tie to neuroscientists’ findings that creative problem solving involves two modes of information processing. Thus, leaders need a mix of training to ameliorate both gears. Furthermore, other research supports that rigorous causal analysis training can enhance strategic decision making skills.

Cognitive Tools

Past research linked increased complexity with cognitive overload, and ultimately decreased leader performance. However, various studies have identified the positive influence of mental aid tools on cognitive performance. Such tools facilitate decision makers to visualize their thoughts about a complex situation to help relieve cognitive loads as well as enhance understanding and communication. For example, as proved in a study, “causal loop diagram,” which is a loop-like graph visualizing the positive
or negative cause-consequence relations among various elements, has beneficial impact on mental model accuracy and performance on complex tasks.

Another widely used mental aid tool is “decision tree,” which is a tree-like graph of decisions branching off to their possible consequences, with information such as benefits, costs and timeline of each option as well as probability of each outcome. Decision trees help leaders understand the critical decision points, analyze various options and make a choice.

Many of these cognitive tools are available in the form of software. Leaders can choose those that fit their own cognitive style and tasks.

**Emotion Management**

Numerous studies have been conducted to identify which emotions produce positive or negative impact on cognition. Research implies that either over-optimism or over-confidence make solutions and decisions worse, raising a cautionary flag against the general belief that being optimistic or confident is always good. Even when things seem to go well, leaders should identify what could go wrong. More holistically, while a balanced optimism-pessimism is necessary for critical analyses, this balance need not be your public face. Outward displays of optimism and confidence do help when interacting with others.

These are just a few of the ways leaders can develop their flexibility in using both analytical and intuitive modes.
REFERENCES


