


Chapter 5

Leading With Heart and Mind:

Neurobiological Dimensions of Decision–Making for Sustainable and Circular Economy Leadership

Selma Kalkavan

 <https://orcid.org/0000-0003-3252-0345>

Independent Researcher, Turkey

Sonja Vlaar

Attune.nl, The Netherlands

ABSTRACT

Leadership decisions rarely follow a purely logical path. In our exploration of decision-making processes, we observed that cognitive reasoning, emotional signals, and physiological responses often intersect. Moments of increased heart rate, tightened muscles, or altered breathing are not just bodily reactions—they shape the way choices are made, especially under pressure. Drawing on both the literature and insights from a focused exploratory study, we argue that effective leadership emerges when these internal systems—mind, emotion, and body—are in balance. Yet, decision-making models tend to prioritize cognitive skills, often neglecting the embodied experiences that silently guide leaders' actions. This work invites a reconsideration of such frameworks, suggesting that greater physiological self-awareness may unlock a more adaptive, responsive, and authentic approach to leadership.

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1. INTRODUCTION

For a long time, people believed that the best leadership decisions came from clear and rational thinking. But new findings from neuroscience suggest that this is only part of the story. Signals from the body such as changes in heart rate or muscle tension can give leaders important feedback. This is true especially when emotions of the leaders run high. Being aware of these signals does not weaken decision-making as it may make choices stronger and more responsive to the real situation.

There is also increasing evidence that the heart and brain are more connected than we once assumed (Villiger & Hammig, 2023). The way these two systems communicate affects the clarity of thought and the ability to stay calm under stress. Leaders who learn to listen their bodies are often better equipped to handle challenging situations with both flexibility and care (Qi et al., 2021). This skill has become even more important in today's era of sustainability and the circular economy. Effective leadership now demands a systems-level view. This means that effective leadership requires balancing economic success with environmental restoration and social well-being (Adedeji et al., 2014). From this perspective, the neurobiological integration of the heart and mind offers a strong framework for truly holistic thinking. It helps leaders connect logical analysis with empathy, ethical foresight and long-term environmental considerations. By building both physiological balance and emotional intelligence, leaders can approach complex sustainability challenges with greater clarity and resilience (Ezeudu et al., 2016). This approach ensures that decisions increase the organizational performance and support the renewal of natural and social systems (Almeida et al., 2024).

In this study, we set out to examine how leaders experience and apply these different types of awareness in their decision-making. We invited 60 participants to take part in a survey reflecting on these ideas. Twenty-seven responded giving us valuable insights into how the mind, emotions, body and intuition work together in leadership. In the following sections we share what we learned from their responses.

2. BALANCING COGNITIVE SYSTEMS: BRAIN AND BODY IN DECISION-MAKING

Theories in psychology and neuroscience describe decision-making often as the interaction between two distinct routes to making decisions. Daniel Kahneman popularized this idea in *Thinking, Fast and Slow* (2011), calling them System 1 and System 2.

System 1 operates fast, automatic, with little or no effort, relying on intuition, and is emotionally charged. It activates our innate and instinctive responses. According to

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