

PRACTICAL CONTRIBUTIONS OF APPLIED & ORGANIZATIONAL NEUROSCIENCE TO CORPORATE GOVERNANCE

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How to cite: Haro Leon, I. E. (2023). Practical contributions of applied & organizational neuroscience to corporate governance. In M. Tutino, V. Santolamazza, & A. Kostyuk (Eds.), *New outlooks for the scholarly research in corporate governance* (pp. 105–108). Virtus Interpress. <https://doi.org/10.22495/nosrcgp20>

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Received: 16.05.2023

Accepted: 24.05.2023

Keywords: Neuroscience, Corporate Governance, Organizational Neuroscience, Brain, Decision-making, Motivation, Rewards, Leadership

JEL Classification: D21, D22, D23, D29, D70, D79, D89, D91, G34, L2

DOI: 10.22495/nosrcgp20

Abstract

From the Industrial Revolution that took place between the XVIII and XIX centuries to the coin of the term the “Fourth Industrial Revolution” (Schwab, 2016) almost 300 years have passed. During this period, the industry evolved from steam power and its influence on labour, production, and even society composition (Nuvolari et al., 2021) to a current context that is characterised by physical, digital, and biological megatrends and pioneering scientific and technological innovations (Philbeck & Davis, 2018). However, the human brain, the organ responsible for dealing with the uncertainty and challenges of the Fourth Industrial Revolution, has not evolved in similar terms neither at a similar speed than organizations (González-Forero & Gardner, 2018; Scarlett, 2019). For the human brain the main goal is still survival (Barker et al., 2018), and to ensure it, it performs according to biological, genetical, neuronal, and hormonal principles (Bear et al., 2015; Kandel et al., 2021), and also under the basis of patterns, behaviours, habits, and heuristics (Tversky & Kahneman, 1974).

On the other hand, history has shown that from the Cadbury report on corporate governance (The Committee on the Financial Aspects of Corporate Governance and Gee and Co. Ltd., 1992), to the Organisation for Economic Co-operation and Development (OECD) principles of corporate governance (OECD, 2004) efforts to control and enhance firms' performance have not been sufficient (Markham, 2006) and the invitation for contributions to the on-going *Review of the G20/OECD Principles of Corporate Governance* (OECD, n.d.) manifest the need for a holistic and multidisciplinary approach that can add to the development of corporate governance practices the outside-the box perspective that can face the new megatrends.

With these historical antecedents and brain limitations in mind, the main question that this study aims to answer is:

RQ1: Can corporate governance benefit and practically apply neuroscientific knowledge to enhance its effectiveness?

RQ2: And if such is the case, in which areas of corporate governance could we find a conjunction between applied neuroscience and corporate governance?

A literature review on practical approaches of applied neuroscience, cognitive neuropsychology and organizational neuroscience to corporate governance is the methodology applied to answer these queries.

Applied neuroscience purpose is to close the gap between the scientific knowledge generated by neuroscience and real-life problems in such a way that human life may improve (Freberg, 2022). Research from this field provides information on how the central and extended nervous systems make decisions and how they can be biased due to emotional states, psychological schemas, and neuronal, genetic, and biological factors (Heydenfeldt, 2013). Similarly, cognitive neuropsychology's analysis of the structure and processes of the brain linked to perception, memory, reasoning, learning and decision-making (American Psychological Association, 2023), is throwing light on the brain processes that take place during the governance of firms in change management processes (Snyder, 2016). Furthermore, organizational neuroscience is occupied with the analysis of the brain's processes that affect individuals' decisions, behaviours, and relationships within the organizational context (Waldman & Balthazard, 2015) and, therefore, it provides the broadest amount of knowledge to corporate governance.

According to the research criteria, it was identified evidence of the application of these disciplines in the following domains: motivation and rewards of directors (Ivascu et al., 2022); organizational change (Snyder, 2016); communication with stakeholders (Casey & Robinson, 2017; McHale, 2022); leadership (Swart et al., 2015); and decision making (Ahmad, 2010; Jones, 2017). Hence, there is evidence that suggests that boards of directors, C-level executives, stakeholders and policymakers could benefit through the implementation of a holistic

approach that encompasses not only legal, economic, and financial knowledge but also neuroscientific and neurocognitive psychological research. However, it is also clear that "neuro-governance" (Farmer, 2006) is still in a very early stage of study and development, which offers a broad field of study for organizational neuroscientists, organizational psychologists, corporate governance experts and law-makers.

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