



Neuromanagement – A New Oportunity for the Romanian Business Environment

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ABSTRACT

The entrepreneurial dynamics and the progress of technology are generating a lot of opportunities for the business environment, but still, Romania does not consistently explore these advantages to favorably impact its long term management and financial performance. This scientific research aims to form an opinion of the impact of neuromanagement on the Romanian's organizational performance and also, to investigate to what extent, the management strategies can integrate neuromanagement as a true opportunity for the business environment. In order to substantiate this, the research framework was built on a complex scenario that integrates a qualitative empirical study (Study I), a quantitative (Study II) and a neuroscientific study (Study III), a combination of psychometric, biometric, neurometric techniques and neuroscientific methods. The research results highlight the fact that the entrepreneurial environment is aware of the value proposition of neuromanagement and its strategic role in managerial practice and the three studies that designed the research, indicated the fact that a direction can be drawn for the adoption of neuromanagement, on a larger scale, within organizations in Romania.

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1. Introduction

Neuromanagement is an innovative direction that can increase competitiveness, performance and support the progress of the entrepreneurial and organizational environment, therefore Romania must continue its development efforts, to increase its capacity for innovation by adopting new strategies and tools (OECD, 2022), to reduce the gap between the available information and the implementation within strategic directions of the companies.

Research in neuromanagement, one of the current management trends, emphasizes the need for an innovative managerial approach, which directs organization towards performance and success (Stanton et.al, 2010). Organizations oriented and focused on incorporation of neuroscientific contributions into their management strategies, adopting and implementing neuromanagement practices, have developed better organizational processes and superior performance in leadership, planning, cooperation, conscious decision-making processes, managerial vision and human resources management (Chávarro & Lenys, 2017). In order to improve performance - better financial results, accelerated innovation of products and services, valuable human resources, organizational changes that generate competitiveness, sustainability and a higher standard of quality - innovative approaches to organizational management are needed. (Teacu-Parincu et.al, 2020). The awareness of the benefits of neuromanagement, the understanding of the brain functionality and neural processes, opens new opportunities in the managerial spectrum, being a solid competitive advantage. (Abreu, 2015; Balconi & Venturella, 2017; Arce et.al, 2020).

2. Research context

Neuromanagement is addressed mainly from a theoretical perspective, the empirical research not being consistently robust to date. New research opportunities were generated after the review of specialized literature, that highlighted important gaps in neuromanagement research, with no clear directions and its real potential. The neuromanagement literature in Romania indicated a major lack of research, with no empirical study being identified, thus outlining the need and also opportunity to develop a research study applied to the Romanian organizational environment. The spectrum of neuroscientific research conducted in Romania is not very broad and is focused mainly on neuromarketing techniques (Constantinescu et.al, 2019; Tichindelean&Beca, 2019; Ioanid& Scarlat, 2022).

Neuromanagement is a facilitator of the evolution of new theories and models applicable to the business environment, at the managerial and organizational level, with the ultimate goal of increasing

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individual and global performance, having access to new instruments that support better knowledge and understanding of human nature, behaviour and decision-making processes. (Teacu-Parincu et.al, 2020).

3. Research purpose and objectives

The main objective of the research is to outline the perceived viability of neuromanagement practices and to highlight a theoretical framework that can guide the empirical research on neuromanagement adoption perspectives, in order to facilitate organizational implementation. There is insufficient empirical evidence to quantify the impact of neuromanagement on organizational performance and no clear, coherent perspective of the adoption process and subsequent experimentation by the entrepreneurial environment. All these elements generated the opportunity to develop a complex study applied to the Romanian entrepreneurial environment, to facilitate the identification of answers and some conclusions related to the perception and also the true impact of neuromanagement on the performance of Romanian organizations. (Teacu-Parincu&Capatina, 2021). A suitable approach had as a starting point the evaluation of the level of neuromanagement knowledge and how it is perceived currently by the Romanian business environment, by assessing the level of openness towards neuromanagement and the factors that can impact adoption and future perspective of implementation and use of neuroscientific practices and technologies. (Teacu-Parincu&Capatina, 2021).

Efforts were directed towards identifying solid evidence to support empirical research and demonstrate the fact that neuromanagement can represent an opportunity and a competitive advantage that can support the development of the entrepreneurial environment in Romania and also to reveal the true impact of neuromanagement on individual and global performance, at the organizational level, in Romania.

The research pursues specific objectives (Teacu-Parincu&Capatina, 2021), and through the steps taken, it set out to answer a series of questions, as follows:

Objective 1 (O1) RQ1	Revealing the benefits of adopting neuromanagement. <i>What are the benefits of adopting neuromanagement?</i>
Objective 2 (O2) RQ2	Revealing the risks of adopting neuromanagement. <i>What are the risks of adopting neuromanagements?</i>
Objective 3 (O3) RQ3	Revealing the factors that impact the adoption process of neuromanagement. <i>What are the factors that impact the adoption process of neuromanagement?</i>
Objective 4 (O4) RQ4	Revealing the level of familiarity and knowledge related to neuromanagement, neuromarketing, neuroleadership, neuroscientific technology. <i>What is the level of familiarity and knowledge related to neuromanagement, neuromarketing, neuroleadership and neuroscientific technology.</i>
Objective 5 (O5) RQ5	Revealing the experience level of using neuromanagement, neuromarketing, neuroleadership and neuroscientific technology. <i>What is the experience level of using neuromanagement, neuromarketing, neuroleadership and neuroscientific technology within organizations in Romania?</i>
Objective 6 (O6) RQ6	Building the conceptual model that can predict the adoption of neuromanagement. <i>What is the theoretical construction of the adoption model of neuroscientific practices?</i>
Objective 7 (O7) RQ7.1 RQ7.2 RQ7.3	Analysis and revealing of intentions to adopt neuromanagement within organizations in Romania. <i>Is there an intention to adopt neuromanagement in the activity of Romanian organizations?</i> <i>What are the variables or factors that explain the adoption intention?</i> <i>What are the predictors of neuromanagement adoption?</i>
Objective 8 (O8) RQ8.1 RQ8.2 RQ8.3 RQ8.4 RQ8.5	Revealing the real perception – emotional reactions, of the subjects investigated in the neuroscientific study. <i>How are the benefits and risks associated with neuromanagement truly perceived by the participants in the neuroscientific study?</i> <i>How are the factors that impact the adoption of neuromanagement perceived, in real terms, by the participants?</i> <i>How is the experimental neuroscientific process actually perceived by the study participants?</i> <i>How is contact with neuroscientific technology perceived by study participants?</i> <i>How is interest in participating in neuroscientific experiments really evaluated?</i>

4. The research framework

To outline the research framework, an extremely complex scenario was designed, which integrates three solid studies: Study I - a qualitative research, Study II – a quantitative research and Study III - a neuroscientific research.

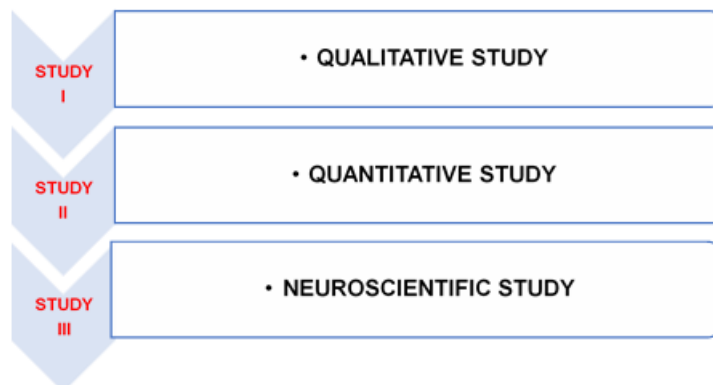


Figure 1. The research framework

Source: author's contribution

In order to evaluate the impact of neuromanagement practices on the performance of the Romanian business environment a feasible scenario was constructed starting from the evaluation of the knowledge, awareness and the current perception of neuromanagement, in order to identify more accurately the level of openness and the perspectives of adoption and implementation of these practices in the current activity of the organizations.

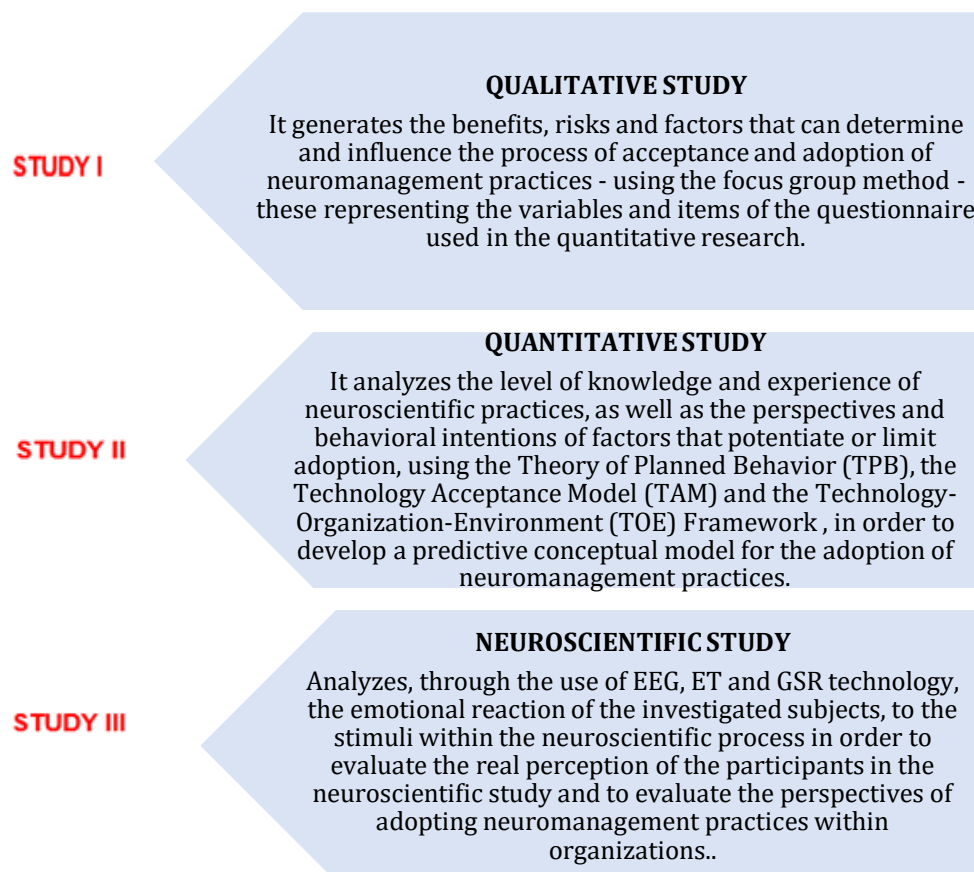


Figure 2. The empirical design of the research

Source: author's contribution

The methodological approach of the research starts from a qualitative analysis of the benefits, risks and factors that impact the adoption process of neuromanagement, from the perspective of organizations in Romania. The results of qualitative study represented the basis of the variables and items construction of the

questionnaire used in the quantitative research, that investigated the behavioral intentions to adopt neuromanagement practices - a complex conceptual model being designed, using TPB (theory of planned behavior), TAM (technology acceptance model) and TOE (technology-organization-environment) framework, in order to measure its predictive abilities (Teacu-Parincu&Capatina, 2021). A neuroscientific research study was carried out in order to investigate the emotional reaction of the subjects, to the main stimuli of the neuroscientific process, using electroencephalography (EEG), eye tracking (ET) and galvanic skin response (GSR) technology. The objective of the research is to identify the intention of organizations to adopt neuromanagement, to evaluate the main factors that can potentiate or limit the adoption and also to highlight the benefits and risks for entrepreneurial environment in Romania, that directly impact the organizational performance. In order to achieve the research objectives, the framework construction had to support the attempt of identifying the answers to research questions, to validate or not if the current Romanian management strategies can integrate neuromanagement as an opportunity for the business environment.

5. Preliminary results

Study I used in the research is focused on the first three formulated objectives (O1/O2/O3) and aims to identify answers to the questions RQ1/RQ2/RQ3. The business environment has high expectations regarding the benefits of neuromanagement, and this must be reflected in the improvement of global and financial performance and in the efficiency and explanation of decision-making processes, the cost of neuromanagement practices, aiming for its efficiency, but also the fruition of innovative opportunities for development and efficiency of the activity, neuromanagement being a source of opportunities and innovative solutions for specialists in management, leadership and marketing. Increasing performance and understanding decision-making processes using scientific measures, had an important concentration of the answers delivered by the participants, which indicates higher expectations compared to traditional methods.

Regarding the risks, there were concerns about the high costs of adopting neuromanagement, a distorted cost-benefit ratio, but also the fear that neuromanagement practices would violate ethical principles, the privacy and confidentiality of participants, a lack of control over decision-making processes and the risk of manipulation of the participants. A fear related to the neuroscientific technology used in the studies - uncomfortable and invasive, was also highlighted, causing participants to become reluctant, reserved and disinterested in participating in neuroscientific experiments, doubts being generated regarding the validity, potential results, transparency and interpretation of the results of neuroscientific research, being pointed out the lack of internal and external experts who can conduct neuromanagement studies. (Teacu-Parincu&Capatina, 2021).

The factors highlighted mainly by the participants, concerned the perceived trust, the low level of knowledge and familiarity with neuroscientific concepts, as well as the need for external support for its implementation. Another important factor is the results perceived by the participants and also the attitude towards technology - an element that can affect the adoption behavior, together with the pressure of the competition. Also, the interest in participating in neuromanagement studies is an extremely relevant aspect, because the investigated participants are the ones who generate the results used in neuromanagement studies. The top management factor is a very important one, because it can decide favorably or unfavorably the adoption at the organizational level of neuromanagement practices, emphasizing the fact that an organizational culture that is oriented towards innovation can easily facilitate the adoption of these practices.

Study II used in the research is focused on the four objectives (O4/O5/O6/ O7) and aims to identify answers to the questions RQ4/RQ5/RQ6/ RQ7.1/ RQ7.2/ RQ7.3.

The quantitative research in Study II continued the investigations started by Study I that brought into highlight the qualitative perspectives of the organizations' perception related to the internal and external factors, and also benefits and risks shaping the adoption process. Study II represents the quantitative measurement of the elements mentioned above, trying to anticipate the intentions of Romanian organizations to adopt neuromanagement and build the conceptual, theoretical model that can predict the adoption and use of neuromanagement.

The quantitative research revealed a low level of familiarity with neuroscientific concepts and technology and insufficient knowledge about them - the neuromanagement concept having the lowest score, and also a very low experience level in using neuroscientific practices, an important share of the responding organizations (74%) specifying the fact that they have not previously used nor are they currently using neuroscientific practices. Obviously, these results can represent a decisive starting point in the design of coherent strategies and substantiated action plans for the improvement of these parameters.

Most of the organizations participating in the study had a positive perception and attitude, the behavioral intention to adopt neuromanagement being favorably evaluated, the business environment in Romania appreciating the opportunity of implementing a neuromanagement project within their activity.

Study II facilitated the development of a complex conceptual model, based on the synergy of the three theories - TPB - TAM - TOE, with the main objective of predicting the adoption process of neuromanagement in Romania. The highly correlated variables that have an important weight in the variation of behavioral

intentions to adopt neuromanagement, highlighted by the present study, were mainly perceived trust, subjective norms, attitude and perceived results, external support - consulting and training, competitive pressure and perceived usefulness, the main predictor of trust being the perceived usefulness of neuromanagement practices.

The present research highlights the fact that organizations in Romania have a positive attitude and significant intentions to adopt neuromanagement practices, results that are consistent with previous researches that studied other neuroscientific practices (Gorgiev, 2020; Eser et.al, 2011).

Study III used in the research is focused on one major objective (O8) and aims to identify answers to the questions RQ8.1/ RQ8.2/ RQ8.3/ RQ8.4/ RQ8.5.

This study aims to complement the results of the previous studies, in the sense of identifying the real perceptions of the participants, of the emotions and interests that take part in the decision-making and behavioral process and how they really feel and think, by measuring the unconscious reactions of the participants, investigating and measuring the cognitive and emotional processing of the variables used within research, to capture the emotional reality of the participants and to underline the correspondence of rational expressed responses with the emotional ones, revealed by the use of technology.

Through the neuroscientific research, validation or invalidation of the results obtained in study I and study II was pursued. The study wanted to analyze whether or not, consciously or unconsciously, the answers were distorted or manipulated by the respondents and to analyze the information collected by neuroscientific technologies used in the research. Most decisions are processed at a subconscious level, so identifying and analyzing how people really feel and think, measuring people's unconscious reactions helps to validate or invalidate the steps taken in studies I and II. Study III highlighted the interest and positive perception of the participants regarding neuroscientific concepts and technology, but also a level of discomfort in processing, approaching and understanding them, a situation that can also mask a possible fear of what these technologies can reveal about the unconscious activity of the participants - elements that cannot be controlled and managed.

6. Concluding remarks

Study I highlighted important qualitative perspectives regarding the perception of organizations in Romania regarding the benefits, risks and factors that potentiate or limit the adoption process of neuromanagement and neuroscientific technology, all these elements representing a justification, from the perspective of the entrepreneurial environment, regarding the relatively limited rate of adoption of neuromanagement. It is worth emphasizing the fact that organizations in Romania have identified numerous risks of adopting and implementing neuromanagement (15), but their number is lower in relation to the number of identified benefits (19), which suggests a positive perception of the Romanian organizational environment regarding neuroscientific practices (Teacu-Parincu&Căpatina, 2021).

In an attempt to better understand attitude and behavioral intentions in the field of neuromanagement research, study II highlighted the perspective on the intensity of correlations and the predictive power of the variables that outlined the predictive conceptual model of neuromanagement adoption. Although organizations that have experience using neuroscientific practices and technology are relatively few in number, what is truly encouraging is the high proportion of organizations that appreciate the value that neuromanagement offers and have shown their intention and desire to take part of future neuroscientific experiments and to implement these approaches within their organizations.

Study III partially validated the results of the qualitative and quantitative studies, highlighting the potential risks caused, consciously or unconsciously, by the distortion or manipulation of answers, and the need for innovative tools that go beyond the boundaries of traditional perspectives and approaches, through research and information analysis collected through neuroscientific technologies that can identify and reveal the emotions that take part in the decision-making and behavioral process - emotion and rationality being two complementary mechanisms in the decision-making process.

The results of the research highlight the fact that the entrepreneurial environment has the ability to be aware of the value proposition of neuroscientific practices and technology and of the strategic dimension and role in managerial practice, as well as of new perspectives, which emphasize the potential impact on organizational and managerial activity.

Although Romanian organizations have a relatively low level of knowledge and experience in the use of neuromanagement, there is a positive perception towards its implementation and use within organizations, and the three studies that designed the research highlighted the fact that a direction of followed for the adoption on a larger scale of neuromanagement within organizations in Romania.

Being focused on aligning with the evolution of management context and technological revolution and also, the developing of new instruments and practices that generate innovative perspectives for approaching human nature - marking the transition from rational to emotional connections - superior individual and global performances can be an achievable goal (Hill, 2010; Ghadiri et.al, 2013; Labrecque et.al, 2013; Davies & Elliott, 2006).

Romania's dynamics of innovation adoption is marked by an upward trend, but still faces real difficulties. There are challenges that affect the business environment and seriously limit the fruition of opportunities (European Commission, 2022). With clear innovation objectives and coherent strategies related to entrepreneurial and financial education, Romania can change its capacity to absorb innovations and new technologies.

Romania, despite the multiple vulnerabilities it has to face, has all the prerequisites to recover any gaps compared to countries with a much stronger and innovative entrepreneurial environment (European Commission, 2022), and to face the constant challenges and difficulties, to build organizational success, by developing new ways to perform, using neuromanagement as a new management model and a new opportunity for the business environment.

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