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'All leadership is about change; leading towards something,  
creating something new or different.'  
..... Barbara Hoese

## **Abstract**

Can insights and methods from cognitive neuroscience contribute to understanding the unique characteristics of an entrepreneur's brain? Although there is a growing interest in applying neuroscience to entrepreneurship research, there has been limited empirical research in this area, resulting in a limited and incomplete understanding of how an entrepreneur's brain functions. This is partly because different fields have varying perspectives on the concept of cognition. This study aims to bring together cognitive neuroscience and entrepreneurship research. Using a systematic literature review approach, we build on the small amount of existing work to provide guidance for future studies in the field of entrepreneurial neuro-cognition. This conceptual study serves as a starting point for researchers looking to explore interdisciplinary work that combines neuroscience with entrepreneurship.

**Key Words:** Peak Performance, Entrepreneurship and Cerebral Correlates.

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## **Introduction**

Entrepreneurial behavior is increasingly defined by its relationship with the natural world. The 'Pulso Verde' (Green Pulse) strategy reflects a shift in neuro-aesthetics and ethical cognition, where environmental stewardship becomes a source of organizational pride rather than a cost burden. By moving from reactive environmental management to a preventive matrix methodology (e.g., Conesa methodology), the organization demonstrates a more sophisticated cognitive appraisal of its global impact, aligning its neural reward systems with planetary health. Human brains are fundamentally social. EBDM in 2026 must account for the 'Social Brain,' where trust and empathy (regulated by oxytocin) drive business success. The organization's 2025 stakeholder survey highlighted that workers prioritize labor continuity (23%) and assertive communication (13%). By addressing these needs, leadership fosters a 'neuro-safety net' that reduces turnover and increases operational efficiency. This social integration is not merely a moral choice but a strategic one that resulted in a 92% customer satisfaction rate, demonstrating how trust translates into market value.

Entrepreneurial Behavior in Decision Making (EBDM) is a multi-dimensional construct that integrates cognitive psychology, economics, and neuroscience. Traditionally, decision-making was viewed as a rational calculation of utility; however, modern neuro-management reveals it is the result of a delicate balance between the dopaminergic reward system (the drive for innovation) and the amygdala-centered threat detection system (risk aversion). In the context of the Colombian service sector, this behavior was exemplified in 2025 by a strategic pivot toward becoming a BIC Society (Benefit and Collective Interest), a decision that required high-level cognitive flexibility to align financial profitability with social and environmental impact. The prefrontal cortex (PFC) is the seat of executive functions, including planning, inhibitory control, and cognitive flexibility. For a Colombian service firm, EBDM manifests in the ability to harmonize long-term strategic visions with short-term tactical goals. During 2025, the analyzed organization successfully aligned its strategic and tactical objectives, ensuring that the 'big picture' of sustainability permeated every operational level. This alignment is a cognitive hallmark of resilient organizations, allowing them to close 78% of actions derived from SWOT (DOFA) analyses, thereby reducing the 'intention-action gap' common in less mature enterprises.

An entrepreneur's optimal performance is defined by the way they utilize their mental, physical, emotional capabilities, strategic decision-making, and other related factors to maintain business success. To achieve and maintain this level of performance, entrepreneurs must ask crucial questions that challenge their assumptions, habits, and strategies. In order to achieve and sustain high-performance, this study highlights three crucial questions that every entrepreneur should ask themselves. The study challenges entrepreneurs to reflect on their habits and routines, asking them to identify whether they are contributing to their productivity or hindering it. By asking this question, one can conduct a thorough analysis of their daily routine and identify the positive or negative aspects. Additionally, it emphasizes importance of questioning one's mental faculties, such as: How can entrepreneurs manage stress and setbacks, and what steps can be taken to improve? Moreover, to overcome inevitability of entrepreneurship, the study highlights the importance of strong emotional control and stress management to achieve peak performance.

To emphasize the importance of focusing on growth and innovation, the study asks whether my time and energy are being spent in pursuit of strategic objectives. Entrepreneurs are prompted to critically assess their priorities and time allocation, verifying that their efforts align with their strategic objectives. Upon reviewing and optimizing performance across behavioral, psychological, strategic, and operational dimensions, entrepreneurs are guided by these three questions. It's important for entrepreneurs to address these questions regularly to achieve long-term success, avoid burnout, and stay flexible in a competitive environment. By recognizing prevalent entrepreneurial issue of distraction and task overload, study provides distinct method for measuring the importance of tasks. By taking into account both emotional and physical aspects, this suggests that peak performance at entrepreneurial level requires caring for the entire person, not just harder work. The advice is validated by asking three straightforward questions to ensure actionable steps. Entrepreneurs can use these questions for reflective practice without the need for complex tools.

Cognitive neuroscience deals with the structure and function of the nervous system and the brain, allowing an insight into hidden processes and mechanisms underlying thinking and cognition. Core methods used in cognitive neuroscience to explore the relationship between behaviour and cognitive structure and function include neuroimaging (Magnetic Resonance Imaging (MRI), Electroencephalography (EEG), Positron Emission Tomography (PET), Functional near-infrared spectroscopy (fNIRS), and Magneto-encephalography (MEG)) but also behavioural and cognitive

assessments, eye-tracking, neuro-pharmacological interventions and measures, as well as advanced computational modelling of human behaviour. In addition to providing a complement to explore models of entrepreneurship based on social or economic behaviour, these techniques offer the unique opportunity to study the antecedents of entrepreneurial thinking and provide a real-time view of how the brain processes information and solves problems.

### **Scope of Study**

Modern EBDM is evolving toward Augmented Cognition, where human intelligence is supplemented by technology to overcome cognitive biases and data overload. The organization has projected the incorporation of Artificial Intelligence (AI) for 2026 to optimize processes and enhance data-driven decision-making. From a neuroscientific view, AI acts as an 'exocortex,' handling complex pattern recognition while allowing human leaders to focus on high-level ethical and strategic judgment, thus reducing decision fatigue.

Risk-taking is inherent to entrepreneurship, but EBDM distinguishes between 'blind gambling' and 'calculated risk.' From a neuro-biological perspective, uncertainty triggers the release of cortisol, which in high doses can impair the PFC's ability to process data rationally. The case study reveals that the organization identified 32% of its risks as 'High' and 57% as 'Medium'. A neuro-centric approach to EBDM involves implementing preventive controls that migrate these risks toward 'Low' levels, effectively managing organizational anxiety and maintaining cognitive clarity for high-stakes decisions.

Environmental stressors, such as rapid changes in legislation, demand significant neuroplasticity. In 2025, Colombian companies faced significant shifts with the Mental Health Law (Law 2460) and the Labor Reform (Law 2466). EBDM involves the proactive adaptation of internal mental models to these external demands. The case study shows that the organization responded by updating its Integrated Management System (SGI) to focus on worker well-being and fatigue management, effectively turning a potential stressor into a competitive advantage for sustainability.

Decision-making quality is inversely proportional to cognitive fatigue. High-risk operations in Colombia, such as emergency services and healthcare, are particularly vulnerable. The organization recognized this by redesigning shifts and implementing fatigue risk evaluations in response to new labor regulations. Despite an increase in the frequency of minor accidents in 2025 (reaching 2.90 against a 1.70 target), the company maintained zero fatalities and zero permanent injuries (0.00 severity). This indicates that while minor errors persisted, the cognitive controls for 'high-energy' risks remained effective.

The study delivers a concise but powerful framework for entrepreneurs seeking peak performance. It insightfully integrates self-reflection as a tool to realign habits and mental frameworks with desired outcomes. The holistic approach—considering physical habits, emotional resilience, and strategic focus—reflects contemporary understandings that sustainable performance demands attention to multiple interconnected factors. Moreover, the practical nature of identifying three straightforward questions makes it accessible for busy entrepreneurs who may struggle with where to start performance improvements. The inclusion of stress and setback management addresses a critical pain point often neglected in entrepreneurship advice, signaling maturity in understanding the field's challenges. The study could be enhanced by more specific examples or success stories illustrating how entrepreneurs have implemented these questions in real life. Additionally, suggesting tools or methods for habit tracking, mental training, or time management might provide further practical application. Nonetheless, the takeaway is clear: entrepreneurial success is more than business strategy; it entails rigorous self-awareness, emotional management, and disciplined prioritization that must be cultivated continuously.

Entrepreneurs who adopt this mindset and regularly probe themselves with these questions can build resilience, avoid burnout, and maintain trajectory towards their visions.

The study gives entrepreneurs an effective way to do their best work. It helps them think about what they do and how they think so they can reach their goals. The study looks at lots of things like what they do every day how strong they're inside and how they make plans. It shows that to be really successful entrepreneurs need to pay attention to all these things. The study gives entrepreneurs a way to get started. It asks them to think about three questions, which helps them figure out what they need to work on. This is really helpful for people who do not know where to start. The study talks about something that is often forgotten: managing stress and dealing with problems. This shows that the people who did the study really understand what it is like to be an entrepreneur. To make the study even better it would be great if it has stories about entrepreneurs who used these questions and did well. It would be helpful if it gave people tools to track what they do stay focused and use their time well. In short being an entrepreneur is not just about having a good business plan. It is about knowing what you are doing being in control of your emotions and making good choices. Entrepreneurs who use this approach and regularly ask themselves these questions can be strong avoid getting too tired and reach their long term goals. Entrepreneurs can do this by following the study and using the questions to help them. The study is helpful, for entrepreneurs because it gives them a way to work on themselves and their businesses. Entrepreneurs who follow the study can become better at what they do and achieve success.

Entrepreneurial peak performance is what every entrepreneur wants to achieve. It is about how they behave think and focus on their goals. Entrepreneurs should always ask themselves some questions about their daily habits how they manage stress and how they use their time. By doing this entrepreneurs can really get to know themselves. This helps them to be successful for a long time. These questions are like tools that help entrepreneurs think about what they're doing. They help entrepreneurs find out what they are not good at and what they are good at. When entrepreneurs keep thinking about these things they can handle the parts of their job and stay focused on what they want to achieve. This helps entrepreneurs stay happy and healthy and also makes their business grow. Entrepreneurial peak performance is, about being happy and successful and that is what these questions can help entrepreneurs achieve, which is entrepreneurial peak performance.

### **Theoretical Construct**

Nicolaou et al., (2019) argue that neuroscience adds value to the field of entrepreneurship in four ways;

- Creating an opportunity to study hidden mental processes,
- Informing discriminant and convergent validity between theories,
- Examining the antecedents and the temporal ordering of entrepreneurial cognition,
- Refining, constraining, and adjudicating between different theoretical perspectives.

Cognitive neuroscience is really interesting when it comes to studying entrepreneurship. Researchers think that the methods used in neuroscience can help us understand why entrepreneurs do what they do. For example some people have said that cognitive neuroscience can help us learn more about entrepreneurs' behavior and the actions they take. Cognitive neuroscience can really help us understand how entrepreneurs think. Some researchers have already looked into this. They think it is a good way to learn more about entrepreneurial cognition. However there is a problem. People do not agree on what words mean. What areas are important when it comes to neuroscience and entrepreneurship? This makes it hard to do research on neuro-entrepreneurship.

## Research Questions

The current questions are pointing in the right direction, but they are still too brain-region-centred and not yet sufficiently whole-system, team-system, context-system and culture-system centred. For entrepreneurial peak performance under uncertainty, the missing jigsaw piece is unlikely to be found by asking only: ‘Which brain regions light up?’ It is more likely to be found by asking: How do brain, body, affect, rhythm, relationships, uncertainty, lived experience, culture and environment become coordinated — or dysregulated — during entrepreneurial performance?

### What is already known that shape research questions?

Entrepreneurial performance is not simply a ‘cognitive’ event. It involves valuation, risk, ambiguity, reward, social judgement, prediction, emotional regulation, bodily arousal, creativity and timing. Research on decision-making under uncertainty repeatedly implicates networks including the anterior insula, ventromedial prefrontal cortex, orbitofrontal cortex, amygdala, dorsolateral prefrontal cortex, anterior cingulate cortex, striatum and broader salience/executive/default-mode networks. The anterior insula appears especially important in risk and ambiguity processing, while vmPFC/insula circuitry is strongly linked to emotional decision-making. The emerging neuroentrepreneurship literature suggests that habitual or serial entrepreneurs may show differences related to cognitive flexibility, including brain connectivity differences compared with managers, but the field remains young and should avoid overclaiming ‘entrepreneurial brain region’ conclusions. EEG is highly relevant, but it should not be treated as a simple mind-reading tool. It can help track cognitive engagement, workload, attention, affective arousal and creative ideation in real time. Creativity studies show robust links between EEG alpha activity and creative ideation, while newer work also examines theta, beta and gamma dynamics.

For entrepreneurial teams, the key missing layer is interpersonal regulation. Research on inter-brain synchrony and physiological synchrony suggests that collective performance may depend not only on what is happening inside one brain, but on how team members’ brains, bodies, attention and affective states become coordinated. Inter-brain synchrony has been associated with collective performance, and physiological synchrony has been linked with group cohesion and task performance, although effect sizes and interpretation require caution. Indigenous and traditional ecological knowledge adds an important corrective: uncertainty is not always treated as a problem to eliminate, but as a condition to be lived with through observation, feedback, collective memory, place-based intelligence, social learning and adaptive management. This is highly relevant to entrepreneurship because entrepreneurs also operate in volatile, uncertain, complex and ambiguous environments.

### Core Critique

The present questions risk assuming that peak performance is mainly about activated brain regions. That could produce narrow findings.

A stronger **design** would recognize four levels:

1. Individual neural regulation — attention, salience, valuation, creativity, inhibition, flexibility.
2. Embodied physiological regulation — heart rate variability, breathing, arousal, fatigue, sleep, glucose rhythm, hydration, stress load.
3. Team regulation — affective contagion, trust, synchrony, conflict, psychological safety, timing, shared attention.

4. Contextual/ecological regulation — uncertainty, culture, place, lived experience, rhythm, environmental cues, indigenous/adaptive knowledge.

The study should therefore shift from ‘Which brain regions?’ to which regulatory patterns predict entrepreneurial peak performance under uncertainty?

### **Optimized Research Questions**

RQ1 — Individual neuro-regulatory basis of entrepreneurial peak performance

#### **Current:**

Which brain regions are activated during peak performance among entrepreneurs?

#### **Optimised:**

Which neural networks and neurophysiological patterns are associated with entrepreneurial peak performance during uncertainty, opportunity recognition, strategic decision-making and creative problem-solving?

This is stronger because it avoids the outdated ‘single brain region’ framing. It invites investigation of networks: salience network, executive control network, default mode network, reward/valuation circuits, interoceptive networks and creative cognition networks.

#### **Useful Sub-Questions:**

RQ1a: Do experienced entrepreneurs show different patterns of cognitive flexibility, salience detection and reward-risk integration compared with novice entrepreneurs, managers or non-entrepreneurial leaders?

RQ1b: Are entrepreneurial peak states associated with flexible switching between focused executive control and internally generated creative association?

RQ1c: Are there identifiable EEG signatures — for example alpha/theta dynamics, frontal asymmetry, engagement indices or workload markers — that distinguish flow, overload, uncertainty tolerance and creative insight?

RQ2 — Affect, uncertainty and team performance

#### **Current:**

How do ‘affect’ impact upon peak performance among entrepreneurial teams in situations of uncertainty?

#### **Optimised:**

How do individual and shared affective states influence entrepreneurial team performance, creativity, strategic judgement and adaptability under uncertainty?

This wording is more precise. ‘Affect’ should be treated as both individual feeling state and team-level regulatory climate.

#### **Useful Sub-Questions:**

RQ2a: Which affective states support peak performance: calm alertness, urgency, hope, curiosity, trust, excitement, grounded confidence?

RQ2b: Which affective states impair performance: fear contagion, shame, threat rigidity, defensive certainty, manic optimism, fatigue-driven irritability?

RQ2c: How do affective states spread through entrepreneurial teams during moments of uncertainty?

RQ2d: Does psychological safety buffer the negative effects of uncertainty on decision quality?

RQ2e: Can teams convert uncertainty from a threat state into an exploratory state?

This is a major missing piece. The issue is not simply whether affect is 'positive' or 'negative'. Positive affect can enhance creativity, but excessive optimism may impair risk judgement. Negative affect can narrow thinking, but mild concern may sharpen attention. The key question is whether affect is regulated, shared, timed and interpreted well.

RQ3 — Neural and embodied correlates of affective team performance

**Current:**

Which of the brain regions are related to these factors?

**Optimised:**

Which neural, physiological and interpersonal synchrony markers mediate the relationship between affect, uncertainty and entrepreneurial team performance?

This is much stronger because it adds mediation: the research should not merely identify regions, but test mechanisms.

**Useful Sub-Questions:**

RQ3a: Are affective shifts under uncertainty reflected in salience, interceptive, executive-control and reward-valuation networks?

RQ3b: Are high-performing teams characterized by adaptive synchrony rather than constant synchrony?

RQ3c: Do heart-rate variability, breathing rhythm, skin conductance, facial affect, vocal tone and EEG/fNIRS synchrony improve prediction of team performance beyond self-report?

RQ3d: Does misalignment between stated confidence and physiological stress predict poor strategic decisions?

This could become one of the most original contributions of the paper: entrepreneurial peak performance as regulated synchrony, not simply individual brilliance.

RQ4 — EEG prediction of strategic and creative performance

**Current:**

Does EEG-based monitoring of cognitive engagement provide reliable predictors for strategic peak performances and creative thinking in business scenarios?

**Optimised:**

Can EEG-based measures of cognitive engagement, workload, affective arousal, creative ideation and inter-brain synchrony reliably predict strategic decision quality and creative performance in realistic entrepreneurial scenarios?

This improves the question by recognizing that ‘engagement’ alone is too narrow. Someone can be highly engaged and still be rigid, stressed or over-focused.

**Useful Sub-Questions:**

RQ4a: Which EEG markers best predict creative ideation, strategic clarity and decision quality?

RQ4b: Can EEG distinguish productive engagement from stress-driven over-engagement?

RQ4c: Are EEG predictors stronger when combined with HRV, respiration, galvanic skin response, speech analysis and behavioural data?

RQ4d: Do EEG markers predict later business-relevant outcomes, or only immediate task performance?

RQ4e: How reliable are EEG findings across contexts: pitch preparation, investor questioning, crisis simulation, opportunity recognition, conflict resolution and strategic pivoting?

**Vitally important additional research questions**

RQ5 — The regulation-first question

How does physiological regulation influence entrepreneurial cognition, creativity and decision-making under uncertainty?

This may be one of the most important missing questions. Entrepreneurial research often speaks about stress, resilience and cognition, but does not always measure the body well enough.

**Sub-Questions:**

RQ5a: Do HRV, sleep quality, breathing rhythm, glucose stability, hydration, fatigue and circadian timing predict strategic performance?

RQ5b: Are peak entrepreneurial decisions more likely during states of regulated alertness rather than high arousal?

RQ5c: Does physiological dysregulation increase premature certainty, conflict, impulsive risk-taking or avoidance?

RQ6 — The team synchrony question

How do entrepreneurial teams move into, sustain and lose collective peak performance states?

**Sub-Questions:**

RQ6a: Is high performance associated with synchrony, complementary diversity, or flexible alternation between synchrony and difference?

RQ6b: Can team rhythm be observed through turn-taking, pauses, vocal tone, shared attention, physiological synchrony and decision timing?

RQ6c: What happens when one team member becomes dysregulated — does the team stabilise, amplify or suppress that state?

RQ7 — The uncertainty-transformation question

What enables entrepreneurs and entrepreneurial teams to transform uncertainty from threat into possibility?

This question brings together neuroscience, entrepreneurship and indigenous/adaptive knowledge.

**Sub-Questions:**

RQ7a: What role does curiosity, ritual, storytelling, collective memory, trusted relationships and environmental awareness play in uncertainty navigation?

RQ7b: Do experienced entrepreneurs show greater tolerance of ambiguity because they suppress fear, reinterpret uncertainty, or remain physiologically regulated within it?

RQ7c: Can uncertainty tolerance be trained?

RQ8 — The lived-experience question

What do entrepreneurs report happening in their bodies, emotions, attention and perception during their best decisions, worst decisions and most creative breakthroughs?

This is essential. Without lived experience, the study risks reducing entrepreneurship to brain activity.

**Sub-Questions:**

RQ8a: What are the subjective markers of entrepreneurial peak performance?

RQ8b: Do entrepreneurs describe peak states as clarity, flow, instinct, embodied knowing, pattern recognition, timing, courage, calmness or relational atonement?

RQ8c: How do these descriptions map onto EEG, HRV, behavioral and performance measures?

RQ9 — The cultural/ecological intelligence question

What can indigenous, traditional and place-based knowledge systems teach entrepreneurship research about adaptive decision-making under uncertainty?

This must be handled ethically, not extractive. It should not mine indigenous knowledge as 'data' but recognise it as a knowledge system in its own right.

**Sub-Questions:**

RQ9a: How do traditional knowledge systems use observation, rhythm, seasonality, collective memory and feedback to make decisions under uncertainty?

RQ9b: What parallels exist between adaptive ecological management and entrepreneurial strategy?

RQ9c: How can entrepreneurship research include indigenous perspectives without appropriation, simplification or de-contextualisation?

RQ10 — The developmental/training question

Can entrepreneurial peak performance be developed through training in regulation, attention, affect awareness, uncertainty tolerance and team synchrony?

**Sub-questions:**

RQ10a: Can breathwork, reflective practice, sleep/circadian optimization, music/rhythm, embodied awareness or structured team rituals improve decision quality?

RQ10b: Can EEG/neurofeedback help entrepreneurs recognise overload, rigidity or creative readiness?

RQ10c: Are the most effective interventions cognitive, physiological, relational, environmental — or combined?

Suggested final set of research questions for the paper

Here is a **tightened version** that could be used in the paper:

RQ1: What neural and neuro-physiological patterns are associated with entrepreneurial peak performance during uncertainty, opportunity recognition, strategic decision-making and creative problem-solving?

RQ2: How do individual and shared affective states influence entrepreneurial team performance, creativity, adaptability and decision quality under uncertainty?

RQ3: Which neural, physiological and interpersonal synchrony markers mediate the relationship between affect, uncertainty and entrepreneurial team performance?

RQ4: Can EEG-based measures of engagement, workload, creative ideation, affective arousal and inter-brain synchrony reliably predict strategic decision quality and creative performance in realistic entrepreneurial scenarios?

RQ5: How does embodied physiological regulation — including HRV, respiration, sleep, fatigue, circadian timing and stress physiology — influence entrepreneurial cognition and team performance?

RQ6: How do entrepreneurial teams enter, sustain and lose collective peak performance states?

RQ7: What enables entrepreneurs and entrepreneurial teams to transform uncertainty from threat into opportunity, exploration and adaptive action?

RQ8: How do entrepreneurs describe the lived experience of peak performance, intuition, timing, embodied knowing and strategic clarity, and how do these accounts correspond with neuro-physiological data?

RQ9: What can indigenous, traditional ecological and nature-based knowledge systems contribute to understanding adaptive decision-making under uncertainty?

RQ10: Can regulation-based, rhythm-based, reflective or neuro-feedback informed interventions improve entrepreneurial peak performance and team decision-making?

### **Recommended Framing Statement**

A **strong framing** could be:

Entrepreneurial peak performance is unlikely to be explained by isolated activation of specific brain regions alone. It may be better understood as a dynamic regulatory state in which neural networks, embodied physiology, affective tone, interpersonal synchrony, lived experience and environmental context become temporarily coordinated. This study therefore investigates entrepreneurial performance not only as a cognitive process, but as a brain-body-team-environment phenomenon shaped by uncertainty, affect, culture and adaptive experience.

Do entrepreneurs have better meta-cognition on neuro-cognitive task performance than non-entrepreneurs? Can they learn to improve their meta-cognition using neuro-cognitive tasks? Can greater metacognitive ability lead to more success in entrepreneurship; is this related to an ability to adapt and pivot in real-life scenarios?

Do the structure and functional activity of the aPFC differ in entrepreneurs compared to non-entrepreneurs, and does this reflect better meta-cognition and self-reflective processes?

Some of the research questions being proposed in this study are:

1. Which brain regions are activated during peak performance among entrepreneurs?
2. How do 'affect' impact upon peak performance among entrepreneurial teams in situations of uncertainty?
3. Which of the brain regions are related to these factors?
4. Does EEG-based monitoring of cognitive engagement provide reliable predictors for strategic peak performances and creative thinking in business scenarios?

## Lines of Enquiry

- Are entrepreneurs more creative than non-entrepreneurs in lab-based objective cognitive neuroscience creativity tasks?
- Do brain networks involved in creative processes, such as the default-mode and semantic control networks, show more robust connectivity in entrepreneurs and correlate with increased creative insights?
- Do entrepreneurs use exploratory behaviour more in decision-making and thus show different activity and connectivity between the brains networks involved in this process?
- How do entrepreneurs' brain, particularly activity in the ACC, aid decision-making when the environment's volatility changes?
- At what time/level does uncertainty play a role for entrepreneurs? Is it during perception of the environment's volatility, or is this processed the same for everyone but mediated later in entrepreneurs in the processing stream by factors such as social process, emotional regulation, and meta-cognition?
- How can positive emotions, such as passion or attachment, affect rational judgements in an entrepreneur's brain?
- How do specific emotions, such as fear and uncertainty affect tolerance to uncertainty, activity within the ACC and thus exploratory decision-making behaviour?
- What are the neural correlates that occur in audience members from eye-contact, facial expressions, personalisation and/or contextualisation during an entrepreneur's pitch?
- Can we see differences in how much weight entrepreneurs put on social advice given to them and how this corresponds to functional activity in the brain? For example, is an entrepreneur more successful when following their judgement or when integrating others' viewpoints into their decision-making?
- Can we see neuro-cognitive differences between entrepreneurs' trust in advisers, mentors, colleagues, and investors?
- Do entrepreneurs direct attention to relevant stimuli more and/or faster than non-entrepreneurs?
- Do entrepreneurs' brains have a better and/or faster ability to 'connect the dots' and is this a general skill or one specific to their expert domain?

Some **objectives** being proposed are;

1. To analyze brain activation patterns in entrepreneurs during peak performance tasks.
2. To map the neural correlates of peak performance propensity within entrepreneurial peak performance process.
3. To investigate the relationship between brain characteristics and entrepreneurial peak performance levels.
4. To develop a model combining fMRI data with peak performance- to identify entrepreneurial mindset.

The **methodology** being proposed is as under;

- **Design:** A comparative, experimental design employing neuro-imaging and behavioral tests.
- **Sample:** Expert entrepreneurs (As on Availability).

**Methods** being proposed is as under;

- EEG : Real-time monitoring of brain activity during peak performance tasks.

: Observing functional connectivity.

• **Analysis:** Machine learning algorithms will be used to classify brain activation patterns and predict entrepreneurial neurological, behavioral, and peak performance data. This study proposes to offer an insight into core of this issue by examining neural correlates of entrepreneurial peak performance- using Electroencephalography (EEG). This research will enhance understanding of the neuro-cognitive mechanisms of peak performance, bridging neuromanagement and psychology.

Despite the challenges and uncertainty that come with being entrepreneurs, some individuals have been eager to explore the opportunities and potential of creating something new. (Corbett et al, 2018) The study of thought processes in entrepreneurs and neuroscience researchers has uncovered cognitive processes that underlie the majority of human decisions and behaviors. Despite similarities, the study of cognition in entrepreneurship and neuroscience presents distinct definitions and methods, which hinder its full integration into entrepreneurial research. The reason for this is that the phenomena being examined in a neuroscience conceptual paper or the way cognition is conceptualized may become unclear or irrelevant to entrepreneurship researchers, or vice versa.

## Conclusion

The main question we are trying to answer in this paper is: Can we learn something from neuroscience that helps us understand what makes the entrepreneurs brain special? Now we do not have enough evidence to say for sure if the entrepreneurs brain is really different. We also do not fully understand how the brain affects the way entrepreneurs think, make decisions and take action. The entrepreneurs' brain is what we are trying to understand.

The reason we do not understand the entrepreneurs brain well is that neuroscience and entrepreneurship are two fields that do not always see eye to eye. Neuroscience and entrepreneurship have ideas about what it means to think and learn. We looked at this problem from a neuroscience point of view. Our goal was to bring neuroscience and entrepreneurship because they are both interested, in the same things. We wanted to show how neuroscience can help us understand how the entrepreneurs brain works how entrepreneurs think, how entrepreneurs make decisions and how entrepreneurs take action.

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