Brain Capital

**THE POWER OF IMAGINATION AND CREATIVITY**

Wednesday 6th July 2022, 15:00 CEST
BRAIN CAPITAL ALLIANCE

WELCOME

Rym Ayadi welcomed colleagues both onsite and online to the event, co-organised by EMEA with the University of Colorado Denver and the Brain Capital Alliance (BCA). Theo Edmonds noted that all attendees had been curated and invited for their diversity of backgrounds and understandings of the word “creativity”, and encouraged questions and clarifications to ensure the discussion would be meaningful for all.
Harris Eyre opened the session with an introduction to the Brain Capital Alliance and brain capital as the context for the discussion. He noted that brain-related challenges such as depression, anxiety, isolation and diseases like Alzheimer’s disease are becoming increasingly common across the world. With COVID-19 and related shocks, the brain has been put at even higher risk. For this reason, it is necessary to integrate brain capital – encompassing brain health and brain skills – into how we think about the economy. The concept of brain capital recognizes the primacy of the human brain in modern economy and life. It does not usurp the concept of human capital – which takes into account factors like skills, degrees and education – but is complementary to and synergistic with it.

The OECD’s New Approaches to Economic Challenges theme ignited discussion on neuroscience-inspired policy, taking into account brain capital and brain health issues. Investment funds, venture capital funds, and “healthy brain bonds” are beginning to focus on brain capital. The Brain Capital Alliance is now a multiorganisational structure.

The goal of the BCA is to boost brain capital by 25% by 2040. The Alliance is now moving from a coalition of interested entities towards being a formalised structure. Brain Capital Living Labs are innovation-driven organisations that facilitate and foster collaborative innovation between different stakeholders in the ecosystem to develop, improve, test and validate digital solutions to specific challenges and issues in brain capital such as early childhood brain development, youth mental health, Alzheimer’s disease, creativity in the workplace, multiple sclerosis, dyslexia, and fake news resilience.
Sara Ronco presented the Brain Capital Dashboard: a team of psychiatrists, economists and policy experts have worked to define brain capital, going beyond human capital, to link it with neuroscience and psychiatry, and to measure it. A policy paper will be published soon, defining brain capital as a productive and complex capital stock that accumulates over the lifecycle, encompassing both brain health and brain skills, which can be empowered by boosters and deteriorated by impediments. The dashboard is aimed to be an instrument for creating awareness at more levels for all stakeholders, including private sector, public sector, NGOs and academia, and for building informed policies aimed at brain capital formation and development.

The dashboard breaks the concept into three pillars, each further broken down into dimensions and aligned with indicators that can be measured. The first pillar is drivers of brain capital, with dimensions including digitalization, health services, the natural environment, perception, social capital, and research and development; the second dimension is the absence of disorder, with dimensions including healthy brain functioning, age-related issues, childhood/adolescence-related issues, and prenatal issues; and the third pillar is brain skills, with dimensions including cognitive skills, non-cognitive skills, neural flourishing, and mental resilience.

Further research and development is required in defining the dimensions, sub-dimensions and indicators, as well as continuous monitoring and collection of data and exploration of funding for data collection projects. There is potential to be explored in the nexus of brain capital, wellbeing, flourishing and resilience. The dashboard will continue to be improved in terms of design, layout and usability, improving definitions, integrating more indicators, and enlarging the database, which will be built starting with publicly available data from public sources. The dashboard is currently password protected while under construction; comments and feedback from attendees is welcomed.
Seda Röder presented a short video of her organisation, Sonophilia Foundation, which takes action to foster creativity in education, business and life, enabling access to knowledge, education and support, and developing creative confidence. She explained that while creativity is taken as a given in the arts, it is also needed in other fields. The organisation funds creativity research, organizes international events and congresses, and brings out publications including books and conference proceedings to help rethink what creativity means in society.

Theo Edmonds discussed the science of creativity and wellbeing, particularly at work: people will spend more waking hours at work than anywhere else, but toxic work culture is the main reason people leave. Declining wellbeing and stressed health systems were an increasing issue even before the pandemic. He defined small business resilience capital as social capital, including personal and community links and catalysts, plus operational capital, including business operations and funding access. The environmental conditions for creativity in organisations is being explored, with an “imagination data collection model” encompassing factors like hope, earned trust, sense of belonging, experience of culture change and experience of innovation.
Carlo Sessa proposed conceptualizing of brain capital not as a composition of health and skills, but as “a brain and bodies of human flourishing for all within the planetary bundles.” He noted that boundaries often stop creativity, and that by assuming that brain capital is simply the mental health and skills needed for a more productive economy, the goal risks being too narrowed. He felt there was benefit in changing the organization to allow people to flourish, instead of trying to change the people, and that an interesting concept is that creativity starts not from problem-solving but from problem-finding and challenging assumptions. Finally, he stressed the importance of capital flourishing indicators.

Enrique de Villamore shared his personal health journey. He said that the brain economy should be one in which mental health development is viewed strategically within the economic development of countries, and mental development issues are taken into consideration from an early stage of life. Children should be helped to understand and manage their emotions, and their relationships with others and the planet, to the extend that emotional intelligence and mindfulness should be integrated into school curricula. He stressed the need more to “medicalize” ordinary life by over-diagnosing mental conditions, in order to really shift to a brain economy instead of a narcotization-based economy. The brain economy should, in his opinion, be the one where physical activity and exercise for mental health and healthy ageing in the population is an axis in the strategy for the economic development of a country one in which physical activity and exercise are tailor-made for this specific physical and mental conditions of each person. He highlighted that we need an economy in which the benefits of physical activity and exercise are integrated into all aspects of people’s life: school, family, and work.
Raúl Ramos stated that brain capital projects shed light on an increasing trend in recent decades that suggests the way economists measure growth is wrong. The OECD initiatives on measuring quality of life and wellbeing, and the Sustainable Development Goal framework are attempts to change this paradigm. Health and wellbeing are strongly and increasingly recognized as crucial for development and for measuring the outcomes we would like to promote in society. For example, measuring education with years of schooling is not as productive as measuring the quality of education or skills and competencies. He commented on the use of “capital”, which has specific connotations within economics, involving initial investment, rate of return, and depreciation. This raises the question of who is going to pay for the investment in brain capital, and who will receive the return? Is the return for individuals or is there a public element? In terms of depreciation, it is important to think about how to build a full stock of capital, constant or even growing, for which it is important to understand how to continuously finance and support brain capital.

Xavier Gironès presented a project that showed the significant potential of different agents working closely together with a shared agenda to meet a community challenge. The project uses creative methods and pooling of experts and knowledge to improve wellbeing and quality of life for people with dysphagia and their carers, through participatory governance and the use of 3D food technology to design diverse, nutritionally adequate food, aiming to reduce the overall economic impact of dysphagia.

Paola Adam discussed her work in health research quality assessment, and the challenge in identifying how and where to invest in research to achieve a positive impact on the health of the population. Normal indicators for assessing science tend to be self-referent, such as the number of papers published, but this fails to encompass impact. She noted several areas of high potential in the intersection of creativity, brain capital and wellbeing, including the identification of mindsets, perception, creativity, cognitive skills and confident relationships.
Theo Edmonds introduced the session, and asked speakers for their thoughts on what metric or metrics would be useful for investigating the relationship between creativity and wellbeing, the evolution of that relationship in society, and how the work around brain capital could seed public-private partnerships.

Wendy Lea noted that global private organisations have long understood the need for change and innovation, though the ways and the pace of operationalising this to achieve organic growth may differ. Public sector organisations are also increasingly on board with the need for innovation thanks to a series of crises, and are recognizing the role of creativity in creating a thriving economy. The question remains of how to integrate this with other aspects of brain capital like neuroscience, and there is a need for education within the public and private sectors to understand the correlation between the brain, neuroscience, innovation and the drive for organic growth.

Michael Freeman described the specific personality profile of entrepreneurs, reflecting common underlying personality traits that are 50% genetically transmitted and 50% shaped by environment. These traits include openness to experience – the trait most highly associated with creativity, sensuality, aesthetic sensibilities, open-mindedness and liberal values – extroversion – associated with being outgoing, assertive and dominant – and achievement-orientated. These three traits define the propensity for entrepreneurship. Entrepreneurs create value through innovation and improvisation; innovation is different from creativity because it involves implementation.
**Bernd Fesel** explained from his own experience that a creative entrepreneur does not always work in a trusted or trusting environment. He mentioned that there are signs that creative success if not being achieved: when creative people excuse themselves, when nobody raises criticism – suggesting that ideas are not pushing boundaries – and if creative processes are not producing fun and laughter. He also mentioned that cultural and creative industries in Europe will benefit from a new innovation agency that will integrate the silos of business, research, policy and education to promote holistic innovation, with 7 offices across Europe to invest in innovation programmes geared towards global challenges such as a green transition that is socially viable and resilient.

**Alejandro Lopez** started by noting that everyone is creative, and not just innovators and entrepreneurs. Creativity is driven by environmental factors, and the environment may dictate that that creativity is geared towards survival and creative use of resources, instead of economic growth. By understanding this, we can learn how to modify environments to allow people to thrive. He advocated for a holistic view of society and the need for equality in brain health and creativity. Definitions are important to avoid narrowing the scope only to growth and not to equality. Finally, he noted the importance of the transdisciplinary nature of this research, as well as the need for more tangible evidence on the value of non-pharmacological interventions in brain health.

**Maryrose Flanigan** explained her organisation's work in integrating the arts into higher education teaching and research, on a level playing field with STEM and humanities. Currently, higher education operates in disciplinary siloes, and so work is ongoing to create channels and pathways to fully integrate the arts into the central action of research practice and education of universities and to foster transdisciplinarity. They help creatives unpack and articulate their processes, to demystify creativity and learn from different creative processes. She expressed the desire to see artists and creative contributions included in funding infrastructure and policy, as well as corporations and industry, and for artists to be employed equitably beyond the gig economy. Successfully integrated projects would leverage artistic methodologies, perspectives and knowledge, with creatives as equal collaborators in projects. One issue in the filed is a distrust of metrics that might not be appropriate or helpful to artists; it is important to introduce metrics in a way that is trusted and authentic, and not just transplanted from STEM or other fields.
Benjamin Knapp mentioned that entrepreneurship in the economic sense of the world is strongly inversely correlated with economic status. His field of interest is the relationship between socioeconomic status, creative processes and entrepreneurship, and he has built multidisciplinary, multi-thematic teams bringing together diverse backgrounds and perspectives to drive innovation. He noted that while problem-solving is always mentioned in discussions of creativity, it is not the only component to creativity. Industry seems to accept the intersection of creative process, economic benefit and innovation, but universities still recruit and teach in siloes. He felt that metrics associated with people and how people interact with the company and the company’s success would be beneficial. Finally he noted that empathy, affect and modes of experience are an important aspect of creativity, neuroscience and identity that should not be overlooked.

Tasos Vasiliadis spoke about how to cultivate the intention to become an innovator or entrepreneur, which has to be done through the educational system. Education systems currently incentivize the memorizing of information, instead of creative thinking; education must be redesigned for brain skills, linking wellbeing, education and creativity. He mentioned the significant evidence supporting brain training as an effective way to postpone Alzheimer’s disease. He highlighted as areas for further research the correlation between creativity and higher education, the association of wellbeing with good jobs and successful entrepreneurship, and how to strengthen the skills of individuals, current and aspiring entrepreneurs, to help them be more successful. One of the most important indicators will be jobs and how well a person can fit their new job position.

Seda Röder commented on the need to rethink and re-establish language around creativity to make it accessible to business and science. She suggested not speaking about pushing people outside of their comfort zone, but rather of expanding their comfort zone; stop telling people to think outside the box, because this only establishes that there is a box. She also noted the need to show companies that they should not be outsourcing creativity: recent figures suggest that 3 out of 4 people do not fulfil their creative potential in the workplace, although they want to.
Andrew Nevin, cochair of the Brain Capital Dashboard, mentioned that the relationship between GDP and human flourishing is not strong, and therefore GDP is not a good measure of wellbeing; furthermore, improvements in wellbeing should be the goal of public policy, not increasing GDP. For public policy purposes, brain capital is more valuable as an intermediary step towards measuring human flourishing, as high brain capital should lead to high levels of flourishing. There is still a lot of work to be done in determining factors that affect creativity and hence favour entrepreneurship. There is a need to identify reforms in the education system which will enhance different dimensions of brain capital and lead to better brain performance.

Shekhar Saxena explained his work identifying the link between psychiatry and creativity. He noted that the Ministry of Health remains conventional and focuses on identifying and curing disease, without investing in prevention of disease or promotion of health and mental health. Many countries are beginning to understand the need to focus more on prevention and promotion, and are investing in things like early child development programmes. Retention of cognitive abilities in the elderly also needs to be tackled in particular, as a case where prevention is easier, less costly, and more effective than treatment.
**Monste Daban** spoke about the need to view the intersection of creativity, brain capital and wellbeing from three main perspectives: from the perspective of policymakers, investors and life sciences stakeholders; from the perspective of future changes and challenges including technology, industry consolidation, health crises and sustainability; and from the perspective of gender in terms of diversity and inclusion. She suggested possible indicators that could be added to the dashboard including funds allocated to research in mental health, clinical trials, number of innovative solutions to mitigate mental health issues, and the number of new living labs in Europe.

**Anna Bobb** shared insights from a philanthropical capital point of view. Capital is still very conservative, and the capital framework focuses heavily on predicting how new markets will emerge, lacking any consideration of “mission” and “meaning”. Different market pathways and new models such as public-private partnerships between states and philanthropy may be a way to improve this. She noted the importance of philanthropy in marginalised communities such as prisons and poor areas.

**Serenity Wright** noted that creativity, brain capital and wellbeing are mainly researched within academia. Social innovation is not new in academia, but a system of support is needed to foster entrepreneurial capabilities and skills. Metrics should be creative, based on innovation principals, impact, and self-sufficiency within a community.

**Cristina Güell** spoke from her perspective from the Fundació Catalonia Sport. She said that children have less and less opportunity for physical exercise, which is vital for physical and mental health from an early age. Childhood obesity is prevalent and increasing, and must be reversed by innovative methods to adopt healthy habits. Sport has been shown to enhance brain health, change children’s mindsets, and lead to the adoption of healthy habits. She noted that many parents lack the time to teach their children about a healthy lifestyle.

**Cynthia Echave**, an urban planner specialized in urban ecology, spoke of the need to build spaces suitable not only for people also animals and biodiversity. The rise in dominance of cars in the 20th century has led to a loss of public spaces for living and play, which needs to be solved with a creative approach, to increase wellbeing and empathy among communities and territories. For example, “super blocks models”, based on the idea of eco-systemic thinking, demonstrates that connecting people, policies and organisations is a complex but feasible process.
Pawel Sweiboda gave an overview of the journey since the launch of the Brain Capital Initiative on 30 June in Paris, which focused on the impact of COVID-19, the cost of mental disorder, the impact of wars and the EU agenda. Clemente Beaune, French Minister for External Affairs, provided a keynote speech for this event, applauding the work. This was followed by an event on 4 July in Brussels which focused on brain health. Brain health is a core issue not only because brain diseases are growing exponentially, but because of scientific and technological breakthroughs in the field. There are a number of initiatives relating to brain capital in Europe and beyond, but they are currently fragmented and should be aligned to ensure common research agendas and access to data via a knowledge hub. Funding of research is also a key concern.

Rym Ayadi closed the event by acknowledging that the challenges faced in the field of brain health are huge, and that discussions had shown the richness and complexity of the concept of brain capital. Understanding of the concept should be aligned across disciplines and among policymakers, and this presents an opportunity to design a new paradigm. She thanked the organisers and all participants for fruitful and thought-provoking discussions.