

## **The university as a catalyst of corporate intellectual capital: A viewpoint grounded in the <IR> multiple capitals approach and triple helix innovation model**

This viewpoint shares a few thoughts on the contribution that universities make to the formation of different knowledge-based (or intellectual) capital forms necessary to effectively create sustainable corporate value over time. Both the multiple capitals approach to maximizing corporate value creation and the triple helix model of innovation provide the notions that underpin the reflections put forward herein.

The Integrated Reporting (<IR>) Framework describes value creation as a portfolio of value, integrating multiple forms of capital other than financial capital. These include human capital, social and relationship capital, intellectual capital *stricto sensu* (or structural capital), and governance capital (Dumay, 2016; IIRC, 2021; Aras and Mutlu Yıldırım, 2022). These types of capital cover a combination of intangible values that reside in: the individual human resources of an organization (*human capital*); the intra/extra-organizational networks of relationships (*social and relationship capital*); the organization itself (*structural capital*); and the organization's governance (*governance capital*) (Coulson *et al.*, 2015). Non-financial-intellectual capital forms – such as the human resource skillset, mindset, knowledge, experiences, intelligence, and relationships, or the organization's social and relational networks, processes, reputation, brands, modes of communication, innovation capability, information systems, and so forth – are becoming increasingly relevant to the improvement of business performance for survival and success, whether operating in normal or crisis conditions. In the context of a knowledge-based economy and society, these forms of capital play an increasingly crucial role in enhancing both business value creation and competitiveness and regional economic growth (Bismuth and Tojo, 2008; Dane-Nielsen and Nielsen, 2019).

Framed in the knowledge-based economy and society discourses, the triple helix model (including its evolutions) identifies within university-industry-government interaction and cooperation, the motive power of innovation dynamics that fosters sustainable performance and growth of wider business ecosystems such as countries or communities (Etzkowitz *et al.*, 2000; Cai and Etzkowitz, 2020). This model portrays the university as the fundamental helix, generating and disseminating knowledge and innovation in its surrounding environment. It thus corroborates the emergence of the university's third mission as a result of the increasing integration of teaching and research activities into the socio-economic and cultural milieu in which the university operates (Zawdie, 2010; Jaeger and Kopper, 2014). The third mission indeed encompasses manifold complementary activities that a university performs in society in addition to its teaching and research missions, thus going beyond traditional academia. Accordingly, the triple helix provides a supporting framework for this viewpoint, which argues that the university plays a catalytic role in corporate intellectual-capital formation through the performance of its teaching, research, and third-mission activities.

The university can indeed serve as the driving force behind the enhancement of different intellectual capital forms that today's corporate world needs to cope with current and potential ecosystem challenges. First and foremost, universities educate students by shaping their technical skills, as well as their critical thinking skills, thus helping to forge the *human capital* required by organizations and communities. In this regard, the role of business schools or business degree programs has become crucial in preparing future managers, executives, decision-makers, and entrepreneurs to lead sustainable businesses (Marathe *et al.*, 2020) in increasingly complex, competitive, uncertain, and transforming environments. Business and management education should indeed help current and future leaders develop the skillset and mindset that they can draw from to deal strategically with the challenges they encounter, including risks and opportunities related to sustainable development issues such as climate change, inequality, underemployment, natural resource depletion, corruption, and other environmental and social problems.

In this way, universities also contribute to the formation of *governance capital* by building leadership skill capacity grounded in sustainability awareness and values. What is more, universities can also inspire future leaders to conceive the meaningful, creative, and ethical strategies necessary to drive actions that lead to corporate value creation over time and contribute to the sustainable development of communities. As an organization, the university itself is an expression of a business model and can, therefore, serve as an example in this respect.

Furthermore, universities also act as facilitators of *social and relationship capital* formation. Indeed, they are promoters of knowledge exchange networks (Fijałkowska and Hadro, 2018) that are able to mobilize relationships and collaborations within and between different communities of stakeholders (students, researchers, citizens, businesses, professionals, institutions, political parties, etc.), also by virtue of their growing social engagement.

Finally, universities also play a generative role in the creation of corporate *structural capital*. This is mainly through their knowledge transfer activities to the industry that relate to the application and exploitation of university research results, such as in the form of patents, technology licensing, spin-off academic firms, science parks and incubators, data and know-how, consulting services, and commissioned studies.

Universities can make a resonant contribution to the economic, social, and cultural growth of the communities with which they interact. They are generators, sharers, and carriers of the different and varied forms of knowledge-based (intellectual) capital that organizations across all sectors need to create sustainable value for themselves and their communities. Universities have, therefore, the institutional and moral responsibility to increase people's self-awareness, wisdom, foresight, and values to drive change toward a better, sustainable future through the powerful lever of knowledge.

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